Journal OF THE AMERICAN DIETETIC ASSOCIATION

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VOL. 22, NO. 3 MARCH 1946

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A.D.A. Annual Meeting, Cincinnati, October 14–18, 1946

Published by THE AMERICAN DIETETIC ASSOCIATION

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dietitian. The Japs were quite surprised to find women officers in the American Army. I think they considered us a problem. They didn't know what to do with us, so they allowed us to continue our work in the hospital taking care of our sick and wounded. At the end of six weeks, they moved us above ground to what had been our old hospital, which was now a shambles but at least much better than the tunnel. We could get fresh air and see a few trees starting to show green again, and the gardenias, which grow everywhere in the Philippines, were in bloom. We were not bothered by the Japanese very much, except that they guarded the place constantly, and we were allowed to go ahead with our work. They kept us topside only a week, then announced one morning that they would take us to Manila that afternoon at four o'clock. The hospital unit was to be packed and ready to go, as they had a new hospital set up in Manila where we would be much happier. We were rather glad to hear this because we thought if food were available anywhere it would be coming into Manila. We thought we might also have a chance to get in touch with some of the men who had been taken on Bataan. Of course, in the meanwhile we had had no word from them whatsoever.

We were transported to Manila on a ship on which was a Japanese naval officer who had been educated in California and was more than happy to talk to those of us who were from California. In fact, I think these conversations brought to light some mutual acquaintances! It was amazing to me to find out that this Japanese officer had been in the United States in November 1941. He told us it was hard for him to make up his mind whether to return to Japan and serve his country after they called him, or remain in the United States, but he finally decided to return to his country. He told us he was coming back to America, which of course at that time meant that they were going to conquer America. He also told us he had a "very dear girl friend" in America. At that time, we had visions of being repatriated immediately, so we said we would be glad to take a message to her. He said, "Never mind. I will see her long before you will," so we dropped the subject.

On our arrival in Manila, we were loaded in trucks and taken to the University of Santo Tomas, while our patients were taken to Bilibid Prison. Santo Tomas was a civilian camp of around 4000 people—Americans, British, Dutch, and some Polish. Most of them had been living in the Philippines and were caught there with their families.

When we arrived in Santo Tomas, our many friends there were happy to see us for they hadn't known what our fate had been. They had rooms all prepared for us and when the Japanese saw how happy our friends were to see us, even though we were a bedraggled-looking group and very thin, they evidently were displeased for they took us to another building, locked us up for six weeks and didn't allow us to communicate with our friends. We were confined to two rooms, one of which we used as a bedroom. Our beds were as close together as possible—two beds together, and an aisle just wide enough to get in. The other room was used as our dining room. We were permitted to go out twice a day for an hour.

The latter part of August 1942, they allowed us to move into the camp with all the civilians. Our quarters were in the administrative building of this university, formerly used as classrooms. All the rooms were alive with bedbugs which we had to fight during our entire stay. Our sanitary facilities had to be provided by the internees in the camp as best they could. On our floor, we had one bathroom with four showers and four toilets which was used by 400 women or more, so we always had lines waiting for the bathroom. We had trouble with the water there sometimes, but as a rule we had plenty of water, for which we were very thankful. Of course we didn't have hot water, we washed and bathed in cold water.

When we arrived in camp, they were having difficulty with the children's diets, so they asked me to take over the children's kitchen at the beginning of 1942, which I did with the assistance of Mrs. Weissblatt. We had about 700 children under ten years of age, and we wanted to keep their diet as nearly adequate as possible. At that time, the Japanese civilians had charge of the camp, and we were able to send out a buyer to do most of our buying. The Japanese allowed us a certain amount per capita daily but the Red Cross representative was able to get some funds to us, too, so we were able to buy extra food. We tried, for the first two years, to give the children one good meal a day, at least one egg a day, and as much milk as possible. We bought carabao milk, which is very rich in fat—I think on the average around 9 per cent. It is a white fat, however. Our worst trouble was trying to get undiluted carabao milk, for the Filipinos continued to dilute the milk. However, we considered it much better than no milk at all for our children. The children, I might add, fared much better in the camp than anyone else.

The Japanese civilians would let the Filipino vendors come into our camp and set up their stalls, so we were able to buy fresh fruits and some fresh vegetables, and they would occasionally bring in meat. So, aside from the fact that we were locked up, had no freedom, and were living under very crowded conditions, we did not fare too badly for the first two years of our imprisonment—nothing in comparison to what our soldiers and officers had to endure. We were not made to work. All we had to do was keep our own camp. We had everything to do in that camp. Each one had to keep his own bed clean. Each had to do his own washing, and, of course, take care of his own clothes. In our group,

we had very few clothes, because in our rush from Bataan we had lost practically everything, but our quartermaster on Corregidor had had quite a bit of West Point khaki, so we wore the skirts and shirts he had had made the entire three years. They were quite ragged at the end, but at least they served as clothing.

Then on Christmas 1943 we received a very nice shipment from the American Red Cross. In this shipment was a 48-lb. package of food for each internee. You probably know what it contained: 4 cans of milk, about 4 cans of lunch meat; around 9 cans of corned beef; small tins of pork loaf; scrambled eggs and ham; and raisins. It was the meat in which we were mostly interested, also the clothing. There was enough clothing for each woman to have at least a play suit, some material to make children's clothes, and each adult received a pair of shoes. With these things added to what we had, we were able to keep our bodies covered most of the time we were there.

At the beginning of 1944, when the Japanese military took over our camp, they decided we should be completely isolated; that was their aim, which they carried out for the rest of the year. They immediately stopped all vendors from coming in. We were to receive only what the army decided to issue to us, which at that time consisted mostly of rice and corn—regular whole dried corn. We had a mill in our camp with which we could grind the corn and make a mush. At the beginning of the year, we might occasionally get carabao meat or perhaps fish—a salted dried fish, flat and very small, with a terrific odor, which we would dry out and eat whole. We found that this was the best way to get the people to eat the fish, and everybody did eat them because they were hungry.

About the time the Japanese military authorities took over our camp, I was transferred to the hospital kitchen. Mrs. Weissblatt continued with the children's kitchen, and Mrs. Pardew had charge of a special kitchen which fed the tuberculous patients and other isolated cases. They both did a wonderful job.

In February 1944 the Japanese army was issuing us around 1500 calories daily per person. Children under ten were given only half this, so we would take enough from adult rations to bring the children's up to ours. Most of the 1500 calories consisted of carbohydrates. There might have been 25 gm. protein at that time. This gradually decreased until in October 1944 our rations were down to about 800 or 900 calories a day, and we never saw meat any more. The markets at this time were poorly supplied for it was impossible to get food into Manila. The Filipinos were having at least as hard a time trying to get food as we, on account of transportation. At this time we were issued rice and corn, and perhaps a few soybeans which we cooked to make a gravy to pour over our rice. Again they gradually decreased our diet until in January 1945 we were getting between 600 and 700 calories daily. This was still rice and corn—no meat. I think it would be safe to say that if we were getting 10 gm. protein daily, we were doing well.

Our problem in the camp was trying to distribute this food evenly, because when people are hungry they are just not themselves and a few grains of rice at that time meant a lot. So we cooked our small supply and tried to serve it equally so that everybody would get the same amount—which was a problem with 4000 people. The other problem which confronted us at the time was what to do about those who had to do the work in the camp. Many were sick and had to be cared for and the sanitation of the camp had to be kept up, so we finally voted to give what we called the heavy workers a little extra food. Of course this caused quite a bit of discussion as to who was doing the heavy work of the camp; everybody quite naturally would try to get this extra meal, for at this time we were having but two meals a day. In the morning we had breakfast around eight-thirty, and our other meal would be at four-thirty. When we could devise anything for a thin soup at noon, we did, because even a thin soup helped the morale of the camp.

In our camp we had a small garden, so we had to do most of the planting on a mass production basis. It takes a lot of vegetables to feed 4000 people! We found a plant called talinum which grew very rapidly, a green vegetable similar to spinach except that it is rather slick when cooked. We found that we fared much better if we had this green vegetable along with the rice. Many didn't like it, but they ate it and were glad to get it. We were able to get enough at most times to feed everyone in the entire camp three times a week. We fed it to the children and to the people in the hospital every day. We also grew a few other vegetables—tomatoes, okra, and eggplant—but in very small quantities which generally went to the children or to those in the hospital.

Our hospital was always crowded and we had a number of very old people in the camp. We formed lines for everything. People fainted in the lines because they were so weak, but they would get up and keep going for the morale of the camp was very good. However, at the end there were three to four deaths every day, mostly due to malnutrition. I think a large majority of the illness was due to protein deficiency. There were a number of cases of beriberi and other conditions that could be attributed to protein deficiency. We had quite a good supply of vitamin concentrates, but people trying to work with such small caloric intake naturally would lose their strength. The men in our camp, I think, suffered more than any. They lost an average of over 50 lb., some losing as much as 100 lb. The women lost an

average of 30 lb. The children didn't lose so much weight, but they weren't gaining weight or growing properly.

What amazed me more than anything when we returned to the States was that our teeth were in such good condition. I can't see how we were able to get any calcium in the diet. For myself, I had only a few cavities. I think that was true of most of my group. It really astounded our dentists.

Many have asked how we were able to keep up our morale. There were a number of things which contributed to our optimism. In the early part of 1944, we received the first mail from the United States. This had been brought over on the *Gripsholm* when it came to take out a few people in our camp and return them to the States. It was a red letter day in our lives when we received letters from home after about three years. We continued to receive letters thereafter for about two months, over scattered periods of time, and then we didn't get any more. When I returned, I found that very few of my letters reached my family. (We had been allowed to write a few letters in 1942 and 1943.) In 1944, the Japs permitted us to write cards with 25 words on them. My mother received, altogether, one letter and one card from me. Others succeeded in transmitting a few more, but not many. So you see we did not get very much cooperation from the Japs. When they were told that such things were not in accordance with the Geneva Convention, they very quickly said that they had not agreed to the Geneva Convention. They took orders only from Tokyo, which probably was true.

It was amazing to us to find that so many of the ordinary Japanese soldiers could speak English. We had a number of them in our camp. Of course, that might have been for a purpose. We didn't know whether some could speak English or not. We knew there was a lot of spying going on in our camp. We even had, I am sorry to say, American spies who reported a number of things that caused the death of many of the internees in the camp. We did not see any harsh punishments inflicted within our camps, but if someone violated a rule or the Japs thought he had, the victim as a rule was taken to Fort Santiago, which was their torture house. We saw some return, and some did not. We could see the effects of their suffering on those who did return when they entered our hospital. You never knew what was in the Japanese mind.

We were always asking for more food and some days the Japs would say they wanted to cooperate and help us, and that they would give us some more if we would call at the food storehouse at nine the next morning. And so we would report there the next morning, only to find another Japanese on duty, who would say, "No, indeed." You never knew what was going to happen. Whoever was in charge at the time had the authority. To me it seemed that they failed completely to cooperate with each other but that was something we knew we had to put up with.

There were people who were able to smuggle supplies and food into our camp, which helped considerably. They brought in some canned pork meats with which we would make a gravy to go over the rice. Some of these people were caught and are not living now, but it was a chance that you would take at any time. In fact, there were many chances that we took even when we knew it would mean death to us if we were caught, but we just thought, "If you are going to die, you are going to die," and we might as well try to get something while we could. The Spanish, Filipino, Swedish, Chinese, and Swiss people helped us at great risk. They would send us money and smuggle food in to us. Anyone caught aiding us was severely dealt with, and many were caught.

We were kept fairly well informed on what was going on in the outside world, especially in the Philippines. Of course, we heard many wild rumors, but we lived on those rumors. We would live from month to month on them. We never thought we would be there over six months. If we had known we were going to be there nearly three years, I don't know what would have happened, but we could always manage to hear some good rumors about the Americans being near and liberation probable within a few days.

I have seen many horrible things, but I have also seen many acts of bravery, courage and sacrifice that make me proud to think I am an American. I know I never realized before what it meant to be a free American, and I am happy just to be alive and to be back with you again.

Effect of Sulfonamides and Vitamins on the Teeth

In a large group of patients given sulfanilamide for various reasons, no effects on the teeth have been observed or reported. There is no mechanism known whereby sulfonamide compounds could affect the structure of the teeth or modify the process of dental decay. Imperfect calcification of the teeth can occur only during their developmental period. Decalcification of the enamel, on the other hand, results only from the local action of acids on the surface of the tooth. The use of vitamins to prevent or treat dental caries has been proved to be ineffective in a number of investigations. The enamel of the tooth, which is the first dental structure attacked by decay, is avascular and acellular and does not have power of regeneration or repair. Removal of the decay and replacement of the lost structure by proper restoration is the only effective treatment.—*From Queries and Minor Notes, J. A.M.A., 128:552, 1945.*

Food Service Problems in an Army Hospital, ETO[1]

FIRST LT. GRACE STUMPF, M.D.D., A.U.S.[2]

I HAVE never had a thrill in my life like that of coming home this last month. I was one of thirty-three "high-point" dietitians who came home by air from the European theater. We returned in a big C54 and we looked and felt like tramps in our "fatigues," but when we flew down the Atlantic coast over Boston, with all its lights blazing, and

LIEUTENANT STUMPF

around the edge of New York to land in Delaware, we really felt that it was Christmas 365 days a year.

First of all, may I say something about the dietitians in the European theater. I knew many of them, and I am very proud to tell you that they did a beautiful job. We arrived shortly after fighting had ceased in Africa, and were moved up to Italy twenty days after the invasion and fall of Naples, along with twelve or fourteen other hospital units. These hospital units were all within a twenty-mile radius of each other for ten months, so the dietitians attached to the several units formed their own little unit—the Naples Dietetic Association, "a branch of the American Dietetic Association." We paid no dues and had a wonderful time. We met informally once a month, and true to our standards, each dietitian who entertained tried to outdo the previous one in serving a better meal. Fortunately, we had plenty of meat and canned vegetables and fruits but very little, if any, butter. So far as I know, ours was the only dietetic association formed overseas in the ETO.

Perhaps you would like to hear of the Army hospital setup overseas. In the European theater there were the following units:

1. The *battalion aid station*, the first medical unit immediately behind the fighting. Here the casualties from the field were brought to the battalion surgeon who classified the cases for immediate treatment or removal to the rear.

2. The *field hospital*, to which nurses but no dietitians were attached and where the patients were held from twenty-four to forty-eight hours, given first aid treatment, and if no further hospitalization was required, were returned to duty.

3. The *evacuation hospital*, to which dietitians were attached and in which the patients arriving from the field hospital were usually placed in ward tents. The tents, I must admit, were usually in the mud—and there you would be likely to find the dietitian! These units usually cared for 200 to 500 patients, and the chief responsibility of the dietitian was the immediate supervision of food. Food preparation in itself was a problem, particularly with the equipment which one had to use. The most important item was the field range, a unit that stands perhaps 4 ft. high, operates with gasoline, and is equipped with a 15-gal. and 10-gal. stock pot and a 100-ration cast iron bake pan which fits in the top of the stove, and has a tightly fitted cover which can be inverted and used for frying. Some fortunate people, I understand, received some of these bake pans made of aluminum. This range was the unit upon which a good seventy per cent of our hospital kitchens depended. We found that with the field

[1] Based on an informal address to the House of Delegates, American Dietetic Association, Chicago, October 17, 1945.

[2] On terminal leave at the time this paper was presented.

range, usually issued at the rate of one for every fifty men, we could cook most anything Mary Barber sent to us overseas. We were fortunate in having a mess sergeant who was a go-getter. An Army TE (Table of Equipment) for a 1000-bed hospital calls for approximately thirty-seven of those field ranges. Before we completed our job our mess sergeant had procured something like sixty or seventy of the ranges for our kitchens.

4. The *station hospital,* used chiefly for service troops. Few of the battle casualties were admitted to these station hospitals.

5. Finally we come to the *general hospital.* In World War I the general hospital was supposed to be in the zone of the interior, and it still is, in Army manuals. However, when our general hospital unit landed in Italy and went to work, we were located five miles from the actual combat zone, which is a long way from the zone of the interior.

The general hospital, in 1942 and 1943, was classified as a 1000-bed hospital. That is, you were supposed to have 1000 patients, and when you had that many, you were supposed to be filled to capacity. We had 100 nurses, 2 dietitians, 60 doctors, and 500 enlisted men to take care of 1000 patients when we left the States in the early summer of 1943. When we reached Africa I had little knowledge of the equipment we would have to use and no idea what had been sent with us nor of the personnel with whom I was to work, for I had been assigned to the unit just two days before we left Camp Carson for overseas. This was also true of the other dietitian assigned to the unit. I didn't know her and she didn't know me. We didn't know our cooks, we didn't know the mess officer, or anyone else in the unit. And so we sat in Africa waiting for the invasion of Italy. We went to Italy and landed at Naples, but they weren't ready for us. At this time, Naples was being subjected to air attacks six and seven times a day and all night long. We were moved out to an area originally intended for Mussolini's World's Fair of 1940, and which the Germans, prior to our arrival, had used for a military troop billeting center. When we arrived, there were about four buildings still with roofs, but there were no buildings with any glass left in the windows. However, in true Army style, we walked into one of those large, once beautiful buildings, lay down on the cement floor, and slept—no blankets, no cots, no beds—nothing. This lasted for three days and three nights, and then they moved us up to our hospital which continued to be our operating point for eight months.

Those of you who have been in Italy may be interested to know that Caserta, Italy, which is twenty miles straight east and slightly north of Naples, was our headquarters. Two blocks down the street was the King's summer palace, which was used as Fifth Army Headquarters, and in somewhat too close proximity was our hospital, quartered in an Italian hospital built in 1600 or so.

Five days after we set up our hospital we had received 1500 patients, or 500 more than the 1000 supposed to be the maximum capacity. Our equipment wasn't all unpacked, but we managed as best we could. Food, at that time, was very scarce. We had canned meats—luncheon meat, canned beef and gravy, the three types of original C rations, but no butter, no marmalade, no peanut butter, no bread, but we had C-ration crackers. We had three canned vegetables most of that winter. As I recall, they were green beans, green beans, and more green beans. Fortunately, we had an adequate supply of canned fruit. No wonder you couldn't get any pineapple—we had it all! We had pineapple, pears, peaches, pineapple juice, grapefruit juice, a blend of orange and grapefruit juice, and plenty of tomato juice. At first the men were very happy to have even a hot meal, no matter if it were the same C rations they had been eating cold in the lines, and I have never in my life seen—nor do I expect to see—an appetite like that of an American GI who has been fighting in the mud and who comes back for a hot meal. He can eat and eat until you would think he'd burst, but he will come back for more.

The high light, I think, of that first eight months was our Thanksgiving dinner. We had read in the *Stars and Stripes* that "Colonel" Barber and her associates were about to send us turkeys. We were a bit skeptical because C rations up to then were about all we had had, so I approached the Fifth Army Quartermaster. He said, "Yes, the turkeys will be here." So we were ready for them when they came, using the regular field range in which only two turkeys will fit. We had to roast the turkeys all the afternoon and the night before Thanksgiving. Instead of the 75 lb. per hundred people we had anticipated, Fifth Army had issued us 150 lb., so we looked forward to a wonderful time. But around nine o'clock that morning we received a telephone call from immediately behind the fighting lines saying, "We have had a terrific storm, and three evacuation hospitals have blown down. There are 900 patients on the way to you." Remember that we already had 1500, and now we were to have 900 more! But this was Thanksgiving Day, and so we fed Thanksgiving dinner from eleven a.m. until seven-thirty p.m. And every combat man, whether wounded or sick, or a corpsman carrying litters all day or taking x-rays, got his hot Thanksgiving dinner with all the turkey he could eat. We have never ceased to hear praises for that meal. (May I say that the Fifth Army was absolutely tops with us overseas and praises are due them here.)

We sometimes forget, because the fighting was stalemated there for four months, that at Cassino some of the bitterest fighting, the worst conditions, prevailed. I wish I had some pictures here to show

you what Anzio looked like. Once it must have been a nice little flat spot. It is surrounded on three sides by mountains from which all of Anzio could clearly be seen by the Germans. Any living thing unfortunate enough to stick its head out of the ground during daylight could be seen from any of the hundred positions. Several of our nurses, I believe, were killed at Anzio. Italy, itself, was a terrific battleground—there are so many mountains. You climb one mountain, only to find a bigger one staring you in the face!

Our duties in Italy were quite different from those we faced later in 1944 and 1945. As I have already said, supplies were very scarce and hard to get. Had you seen me in the fall and winter of 1943 and 1944, you probably would not have recognized me. I was dressed in the typical "uniform" of the Army women of that time. It rained for three months, day and night, and we had no heat. I wore what is known in the Army as long-john underwear. It went from my ankles to my neck and it was of heavy, grey wool. I wore men's wool trousers, men's wool shirts, and combat boots which came half-way up my legs. My cap was standard GI equipment, originally intended as a helmet liner. I wore this outfit going from the hospital out to the ration dumps.

The quartermaster's setup in Class One, which is food, was usually located as close to operating units as possible. Ours, fortunately, was only about two miles away, but it was located in a nice, open field, with no protection, and when it rained the mud got deeper and deeper. Practically every day I went with my sergeant and two big two-and-one-half ton trucks to the Quartermaster, where they were issuing a regular ration for each patient and each enlisted man, officer and nurse. They had several items there which usually they didn't know they had, for supplies sometimes came over in broken shipments. These "extras" were all separated from the regular issue line and as it rained, they would sink deeper and deeper in the mud until you couldn't read the labels. But the quartermaster officers and men let me go to the dumps, and if there were any items which were not on the regular issue that I could use for my patients, I could have them—and I got plenty!

By spring and summer of 1944, we were getting quite adequate rations, supplemented by lettuce, oranges, cabbage, peas, fresh green beans and a few radishes purchased by the Quartermaster from the Italian Surplus Division. These were the foods which people in the European theater missed more than anything else. We generally had plenty of good meat, and during the last year, plenty of butter. But we had no fresh milk of any kind. We reached the point where we could drink powdered or evaporated milk and never know the difference. We had plenty of sugar until the last six months, plenty of cooking fat, and plenty of canned vegetables.

Moving from Italy to France, you would expect great changes. In Italy, we had had no equipment other than that which we had brought with us—we had no steam cookers, no pressure cookers, no big vats—nothing except the unit I have described with its 10 and 15-gal. pots and the roast pan. In France, we found more modern equipment. Some hospital units were fortunate enough to be assigned to civilian hospital buildings where equipment had been installed within the last ten years. Here they had electrical and gas equipment, steam cookers, soup vats, coffee urns, and so on. My unit moved into what had formerly been a French cavalry school and which, prior to our arrival, had been used by the Germans as a tank school and barracks. In the entire area, which covered about a mile and a half, there was but one kitchen equipped with four 100-gal. vats formerly used by the Germans. That is all we had when we moved in, other than our own Army equipment. By February 1945, and with the same staff, we were caring for 3350 patients. Our personnel totaled approximately 800 to 1000 and for more than four months we had between 3000 and 4000 patients. I may feel differently in time, but if anyone tells me now that he can't do the job with the equipment he has, I am going to argue, for I know it *can* be done.

One of the hardest tasks that faced dietitians in the European theater was contact work. You had to see the quartermaster officers in order to get enough supplies. You had to see the doctors in order to get the cooperation you needed. And you had to cooperate with the nursing department. Fortunately for us, the personnel of the units that went over in the fall of 1942 and the spring and summer of 1943 were all carefully selected for their own special jobs. After our census went up, we were allowed four dietitians for a 2000-bed hospital; but for a 1000-bed unit, there were only two, while the evacuation hospital never had more than one. The general hospitals that operated in the vicinity of Dijon, Nancy, and the Seventh and Third Army fronts last winter averaged 3000 to 4000 patients each.

Our final location was in Paris. We started out in Africa with mud for a foundation, but when we reached Paris, we were quartered in a beautiful civilian hospital built in 1938, with all modern conveniences. The all-white tile kitchen was in a separate building. In fact, we had so much equipment with which to work that it practically overwhelmed me. But as usual there is always a fly in the ointment and this time, since it was a French civilian hospital under French civil service, we had to keep on all the French cooks and other help already there, all of which constituted a language problem, to say the least.

You can well be proud of the dietitians overseas. I will mention a few: Kathleen Creech, of the 21st General; Martha Kitchen, also of the 21st General,

who assisted Colonel Marion H. Barker in a 9-month study of infectious hepatitis in Italy; Helen Davis, with the 9th Evacuation Hospital; Lucille Backemeyer, who worked with me; Captain Cathryn VerMurlen, the only dietitian who received that rank in the European theater, and who did a job with the Quartermaster Section of the ETO which I believe no one had any idea could be done by a woman, even a dietitian. She was assigned to the office of the Quartermaster Section and by her own efforts she worked up to the point where, when I came home a month ago, she was deciding which shipments were to go where, how much was needed, and how to divide the shipments, planning the menus for the Germans and Russians and Poles, contacting French civilians concerning their requests, discovering sources of supply of fresh fruits and vegetables—just doing a whirlwind of a job!

CALL FOR DIETITIANS

Commissions for hospital dietitians in both the Regular and Reserve Corps are open in the U. S. Public Health Service, according to a recent announcement of Surgeon General Thomas Parran. Examinations for appointments will be held early in April in various parts of the country. Dietitians who qualify can look forward to immediate appointment.

Commissions open are for the grades of Junior Assistant Dietitian (equivalent to the rank of Second Lieutenant in the Army); Assistant Dietitian (First Lieutenant); Senior Assistant Dietitian (Captain).

The work of dietitians in the hospitals of the U. S. Public Health Service comprises all phases of dietetics. Service dietitians have immediate charge of all activities of their departments. They plan menus for normal and special diets, procure food, order supplies and equipment, supervise the cooking, and instruct and supervise personnel. They have the advantage of working closely with well-qualified full-time physicians and are encouraged to do progressive work in dietetics.

Working conditions in Public Health Service hospitals are most satisfactory. Generally, all work rooms are on the first or second floors. Daylight kitchens are clean, bright and well-ventilated. Dining rooms are sunny, attractive and inviting. Dietitians work with up-to-date equipment and modern facilities.

The dietitian in a Public Health Service hospital sees the results of her efforts. Because the average length of hospitalization in one of these hospitals is about 20 days, dietitians gain a thorough knowledge of the patient's diet problems and have the satisfaction of playing an important part in his recovery. Many of the Coast Guardsmen and seamen remain in the hospital for the entire period of their recuperation. This means that a large number of ambulant patients come to a cafeteria for their meals. There is a mess for crippled patients—men who are well enough to be out of bed but unable to handle a tray.

Public Health Service hospitals (including Marine Hospitals) are located along the seacoasts, great lakes and large rivers, and most of these hospitals are near centers of interest. The hospitals are located in the following cities and towns:

Baltimore, Md., Boston, Mass., Buffalo, N. Y., Carville, La., Chicago, Ill., Cleveland, O., Detroit, Mich., Ellis Island, N. Y., Evansville, Ind., Washington, D. C., Fort Stanton, N. M., Galveston, Texas, Kirkwood, Mo., Louisville, Ky., Memphis, Tenn., Mobile, Ala., New Orleans, La., Norfolk, Va., Pittsburgh, Pa., Portland, Maine, Savannah, Ga., Neponsit, Long Island, N. Y., San Francisco, Calif., Seattle, Wash., Sheepshead Bay, N. Y., Staten Island, N. Y., Fort Worth, Texas, Lexington, Ky., and San Juan, Puerto Rico.

Some assignments are for work other than in hospitals. At present dietitians are detailed to the Office of Surplus Property Utilization for administrative work, and to the infirmaries of government residence halls for government women employees.

Salaries are the same as for equivalent grades in the Army. For example, base pay for a Junior Assistant Dietitian is $1800. In addition, a money subsistence allowance and adequate quarters in kind are usually furnished; the quarters, in attractive nurses' homes, are clean, comfortable, and pleasant. When quarters are not available on the station, a claim is made for quarters allowance in money. Dietitians in the Public Health Service are secure in their jobs so long as their work is satisfactory. Retirement benefits are provided.

In the Regular Corps, promotions are effected after the passing of prescribed examinations and after specified periods of satisfactory service. An officer in the Reserve Corps may be examined for promotion to a higher grade if the responsibilities of the position warrant promotion and the regulation requirements as to age, education, and professional training or experience are met.

Today, dietitians work about 44 hours a week, with at least one full day a week off. It is anticipated that in the near future, a 40-hour week will be universal. Vacations amount to 30 days annually, and can be accumulated to 120 days. Sick leave, medical care and hospitalization are provided.

The street uniform for both Regular and Reserve Corps is the same as that of SPAR officers, except that it carries gold braid, buttons and USPHS insignia. White working uniforms are worn in the hospital.

In the Regular Corps, three examinations are required: (1) a complete physical examination by medical officers of the Service; (2) an oral examination which is really an interview between the applicant and a board of officers, including a dietitian attached to the Service; (3) a written examination in the fields of chemistry, bacteriology, nutrition, physiology, foods, and institution management.

All applicants must be citizens of the United States. Appointments to the Reserve Corps are made essentially on the basis of an interview, a review of the evidence of qualifications furnished by the applicant, and a physical examination. The evidence includes information concerning education and professional training, experience, and character.

Early in April an examining board will meet applicants in various parts of the country. Those interested are asked to make application at once, whereupon they will be informed where and when the examination will take place. To secure information and application forms, address the Surgeon General, U. S. Public Health Service, Washington 25, D. C. Attention: Office of Dietetics. The letter should include the following information, according to Marjorie J. Wood, Dietetic Consultant: Name, age, address, name and address of college attended, date of graduation and degree received; name and address of hospital where student training was received; and any other dietetic experience.

Diet in Infectious Hepatitis[1]

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A HIGH carbohydrate, medium protein, low fat diet until recently has been generally employed in the treatment of hepatitis, but during the last two years the trend has been toward one high in protein as well as carbohydrate and low in rancid fat. This trend was hastened by the appearance of a large number of cases of infectious hepatitis in this theater beginning in the fall of 1943. A search for better therapy was instituted by the Chief Surgeon of MTOUSA, and special personnel was assigned for the purpose of establishing a more successful regime.

In May 1944, a small group of patients was fed a high protein, high carbohydrate, low fat diet with some success. This diet, commonly known as the hepatitis diet, was then proposed for use on a larger scale in the theater in July 1944. Lts. Martha Kitchen and Agnes Walish of the 21st General Hospital and Lt. Jessica Levin, 182nd Station Hospital, cooperated in the early stages, spending many off-duty hours on study and correlation. As the necessity for a full-time dietitian grew, the author was appointed dietitian for the hepatitis program in September 1944.

Although the old C ration was nutritionally adequate, the average soldier after eating the highly concentrated food day after day for a period of weeks or even months usually consumed only the biscuits and coffee. Chief complaints were that it was too "rich," too "fat," that it "settles in my stomach and won't digest," and they never failed to mention the word monotony. It was found that hospitalized combat men refused to taste C rations or any food combination resembling them, no matter how temptingly it was prepared. A stirring example of the latter was the refusal of some 200 patients at the Hepatitis Study Hospital to eat a delicious fresh beef stew because it reminded them of canned meat and vegetable stew. These complaints were lessened a great deal with the appearance of the "10-in-1" and new type C ration. Also, in contrast to the winter of 1943–44, line men were rotated—after a period of combat they spent an equal number of days at a rest camp where they were served hot, nutritious food.

Because of his failure to ingest the required calories, the average soldier during the winter of 1943–44 appeared to lose some weight. However, even with an adequate caloric intake it is possible that over a long period he might well become more susceptible to a disease such as hepatitis, due to the lack of whole proteins, particularly fresh meat which is high in methionine, the liver-protecting amino acid. In the base sections, where there was a much lower incidence of hepatitis than in the forward echelons, fresh meat was served on the average once a day, while field troops received it infrequently. This has been discussed as an additional factor predisposing to infectious hepatitis.

Another interesting factor was that ingestion of average amounts of rancid fat (chiefly pork and beef) by patients ill with infectious hepatitis aggravated their weight loss. Since stool specimens showed no difficulty with digestion of fats it might be considered that methionine was neutralized or inhibited by the rancid fats present in large quantities in the old type C ration (1).

EXPERIENCES WITH DIETS IN INFECTIOUS HEPATITIS

This report is based on the following:

1. Studies conducted on the hepatitis wards of the official hospital designated for the study of this disease by the Surgeon of Peninsular Base Section.
2. Experience during inspections and conferences in medical installations while on tours of the theater which included visits to 10 general, 15 station, 7 evacuation, 5 field, and 1 convalescent hospital and to the Quartermaster of Peninsular Base Section and Fifth Army.
3. Conference with mess officers.
4. Information from medical officers especially assigned to the investigation of infectious hepatitis.

More recent data have been procured from a clinical monograph on infectious hepatitis in MTOUSA by Col. Marion H. Barker and his associates (1), dated 7 February 1945.

The conventional high carbohydrate, low fat diet was commonly accepted and employed in this theater until special nutritional studies proved it deficient in every respect. In determining the constituents of a diet served in a station hospital during the months of March and April 1944, it was found that the protein intake averaged 84 gm.; carbohydrate, 346 gm.; fat, 43 gm.; and calories, 2103. Failure to provide even the prescribed high carbohydrate, low

[1] Received for publication December 5, 1945.

fat diet was chiefly due to the unavailability of the necessary foodstuffs. Because of the limited amount of lean meat procurable it was in many instances impossible to meet the minimal protein requirement. Even though the tray served the patient may have been high in carbohydrate, the total amount ingested was insufficient to sustain or promote a gain in weight, so important in recovery from this disease. It was extremely difficult to convince a patient with anorexia that he should consume a meal consisting of a canned meat (from which the fat had been washed), dehydrated potato or substitute, two canned or dehydrated vegetables, bread, marmalade, and a canned fruit, when he complained that he could not eat these foods when well. Often the presence of an unpopular food on the tray resulted in refusal to touch items usually relished. Periodic waste checks revealed an average increase of 20 per cent in edible garbage when such foods were served so that, although the daily menu showed a total of 2000 calories, often only 800 calories or less was ingested (2). However, if fresh lean meat, vegetables, fruit, butter, and relishes (all critical items) were included, the patient consumed foods ordinarily rejected. (During the winter months when the incidence of hepatitis was high, the only fresh vegetables and fruits obtainable were cabbage, fennel, onions, carrots, apples, oranges, dates, and occasionally tangerines, and cauliflower. These were often of poor quality. Because of the scarcity of food on the civilian market the procuring of these foodstuffs in addition to the regular ration was forbidden.)

Keeping the diet low in fat and making it palatable at the same time was a problem because of the absence of condiments, spices, relishes, and most important of all, lean meat, and fresh vegetables and fruits. Fresh butter which, surprisingly, was tolerated, would have been ideal in preparation but its supply was also limited (on the average, one square per person per day).

When it was demonstrated that the existing diet therapy plan did not arrest weight loss nor hasten recovery in any way, the Surgeon, Quartermaster, and Consultant in Medicine, MTOUSA, made arrangements for the procurement of powdered skim milk and roasting and frying beef to be used in a special hepatitis study. A ward of 40 patients, at various stages of the disease, was set up and a diet containing approximately 172 gm. protein, 320 gm. carbohydrate, 26 gm. fat, and 2200 calories was offered. This diet, which included fresh lean meat and fresh vegetables, was accepted with such relish that patients, except those acutely ill, requested seconds. By the tenth day a change in the physical and mental state was so pronounced that it boosted the morale of not only the patients but the ward personnel as well. On the twenty-first day men who had been on the ward for 60 or more days became ambulatory and 38 were returned to duty (3).

The outcome of the excellent results of this experiment was the establishment of a second ward of 80 patients where observations were closely made to determine to what degree the diet was instrumental in shortening the disease and lessening its severity. Recorded data proved that 5 hospital days per man could be saved (4). Since other evidence was equally as favorable, a circular letter from the Surgeon's Office, MTOUSA, made it possible for all hospital units in Peninsular Base Section to have roasting and frying beef and powdered skim milk—the foodstuffs most essential in the dietary treatment of hepatitis. It was not until January 1945 that evacuation and field hospitals in the Fifth Army were able to inaugurate the new program.

THE MTOUSA HEPATITIS DIET

The following is an excerpt from Circular Letter Number 37, Headquarters MTOUSA, 8 July 1944, which discusses the diagnosis, clinical course, prognosis, treatment, and disposition of patients suffering from infectious hepatitis:

> It has been demonstrated within the past 8 months, that the provision of a proper diet for patients suffering from infectious hepatitis is of prime importance in the treatment. The conventional high carbohydrate, low fat diet has been found to be grossly inadequate because it does not provide a low enough fat content or sufficient calories, and is deficient in the type of whole proteins which are necessary to facilitate the regeneration of the liver cells. The work of Whipple, Ravdin, Goldblatt, György, and others has clearly shown that lean beef protein provides one of the best sources of the amino acids which appear to be necessary for the regeneration of liver cells. Investigations in NATOUSA have also demonstrated the value of dried skim milk in this respect. With this in mind, a high carbohydrate, rigorously low fat, high protein diet has been devised within the framework of the present theater B ration. This diet provides 320 grams of carbohydrate, 185 grams of protein and less than 25 grams of fat. The ingredients for this diet may be obtained by the station or general hospital commanding officer on certification that they will be used for treating patients ill with hepatitis.

After a 6-month testing period, which called for the strict adherence of every hospital in the base section to the new regime, the importance of the high protein, high carbohydrate, low (rancid) fat diet in the treatment of infectious hepatitis was established. However, during this period, by comparing experiences of ward surgeons, nurses, mess officers, and dietitians in the various units and by close observation and checking on the experimental wards it was found advisable to change the method of diet therapy somewhat. Very favorably received and widely circulated among theater dietitians was a letter entitled "Dietetic Studies with Suggestions for Infectious Hepatitis" from Colonel Barker, to the Surgeon, MTOUSA. This letter set forth the results of the nutritional studies conducted up to 2 November 1944 and explained the value of the ward diet check sheet.

These studies included a trial-and-error type of

experiment to determine the most popular, permissible items and ways of preparing foods not particularly liked. For example, after serving rice in every manner imaginable it was found that it was relished most when served as a fruit rice pudding. Five months of observation in the study hospital and comparisons made with other units revealed that certain foodstuffs were more readily eaten if prepared in the following manner (listed in order of popularity):

Meat: Steak medium, beef roast medium, hamburgers baked, meat loaf baked, Swiss steak, chicken or turkey baked and stuffed, chicken fricassee, veal roast, beef stew, beef diced with barbecue sauce.

The roasting and frying beef, veal, chicken, and turkey were thoroughly stripped of all visible fat before cooking. Infiltrated fat was estimated at 6 gm. per 100 gm. meat. A minimum amount of fresh or canned butter or Mazola oil was used in preparation, and seasoning and sauces were freely used. It was found that patients preferred a repetition of the above to a diet varied by the addition of canned meats, no matter how well prepared.

Skim Milk: Since the majority of patients preferred skim milk prepared on the basis of 50 gm. powder to 200 cc. water, thoroughly beaten, strained, and iced, it was sent to the ward in this state and flavoring was made accessible so that individual likes could be satisfied. Although chocolate was on the forbidden list, a chocolate sauce made of cocoa, sugar, and water was often ordered by the wards for patients who could not ordinarily tolerate fresh milk. Also, during the winter months hot cocoa was served once a day. Coffee (except at breakfast) and tea were usually not included in the menu because of lack of sufficient containers, cups, and glasses. When served, the patients were required to drink their skim milk before they were allowed either of the above beverages. Since dairy fats have no apparent harmful effect in hepatitis, fresh or powdered whole milk and cottage cheese should be served if available. Although at this writing the use of evaporated milk has not been introduced, it is presumed that it could be tolerated.

Potatoes and Substitutes: Fresh potatoes were savored if they were mashed, baked, made into a salad, oven-browned, hash-browned, escalloped, or creamed. Potato salad was very well received when served hot as well as cold, with a small amount of vegetable oil used in place of mayonnaise. Dehydrated potatoes were refused, except when hash-browned with onions and seasoned well. Italian spaghetti, dumplings, noodles with beef stock, bread dressing, gravy, Lima and kidney beans flavored with meat or meat stock, and Spanish rice made excellent substitutes. The addition of raisins to bread dressing placed it in the undesirable category.

Occasionally casserole dishes were served to add variety and were approved if not included on the menu too often.

Vegetables: Corn, peas, stewed tomatoes hot or cold, succotash, savory onions, boiled fresh cabbage, Italian squash, and asparagus were always welcomed. Spinach was never included in the menu, not only because it was disliked but also because it is high in oxalic acid which draws on the calcium reserve. Canned vegetable salads were accepted, but they could not compete with the fresh variety of which the men never tired. Only those patients who could not tolerate the so-called gas-forming vegetables, even when well, complained of discomfort.

Fruit: Fresh fruit, fruit salad, fruit sherbet, and ice cream were favored as was canned fruit if there was suitable variation. Although stewed fruit was thoroughly disliked as such, it was enjoyed if served in a vanilla, bread, or rice pudding.

In addition to spinach, the prunes, plums, and cranberries were avoided because of their high benzoic acid content which when metabolized requires glycine for detoxication.

Breads and Cereals: Contrary to expectations, hepatitis patients ate two to four slices of plain bread per meal if fresh butter and a jelly spread other than marmalade or apple butter were available. Toast, frosted sweet rolls, and pancakes were eaten liberally. The appearance of dry cereal on the tray was received with much acclaim and often resulted in the "cleaning" of a tray ordinarily refused.

Relishes, Condiments, and Salad Dressings: Catsup, pickled raw onions, mustard, pickle relish, pickles, French dressing, mayonnaise, and Thousand Island dressing were commonly used. French dressing was most palatable to the patient on a hepatitis diet when only a small amount of vegetable oil was used in proportion to the other ingredients.

Since patients on this diet not only enjoyed but also tolerated well-seasoned food, it was advisable to use liberal amounts of spices, condiments, and relishes to compensate for the decreased amount of fat in the diet.

Soup: Only during the winter months was soup included on the menu and then only on the average of three times a week. In spite of the fact that the amount of skim milk ingested could be increased by including cream soups, it was observed that patients very seldom ate the remainder of the foods on their tray.

Between-Meal Feedings: Although the patient was permitted as much fruit juice as he desired, he was encouraged rather to take a glass of milk and a bread and jam sandwich. The evening snack, consisting of a meat sandwich and a glass of skim milk or cocoa, or soup with buttered toast, proved so successful at the study hospital that other units adopted this practice. Steak or roast beef sandwiches were the most popular, but fillings made of tuna, chicken, or

TABLE 1

BREAKFAST	WEIGHT	APPROXIMATE MEASURE	PROT.	FAT	CARBO.	CALORIES
	gm.		gm.	gm.	gm.	
Fresh orange juice	200	one 8-oz. glass			20.0	80
Whole wheat cereal	30	¾ cup	3.5	.6	22.7	110
Soft-cooked egg	50	1	6.4	5.8	.4	79
Toast	70	2 slices	6.0	2.0	36.0	186
Butter	10	1 pat	.1	8.1		73
Jam	40	2 tbsp.	.2	.12	28.4	116
Coffee—sugar	39	3 tbsp.			39.0	156
Skim milk	250	one 8-oz. glass	18.0	.5	26.0	181
Total			34.2	17.12	172.5	981
DINNER						
Choice steak	240	1 large	40.6	14.4		292
Mashed fresh potatoes	100	½ cup	4.3	1.1	22.4	117
Savory string beans	100	½ cup	1.0	.1	3.3	18
Fruit salad	130	½ cup	.4	.3	26.1	108
Fruit salad dressing						
Bread	70	2 slices	6.0	2.0	36.0	186
Butter	10	1 pat	.1	8.1		73
Jam	40	2 tbsp.	.2	.12	28.4	116
Butterscotch pudding	130	½ cup	4.7	.5	35.5	165
Skim milk	250	one 8-oz. glass	18.0	.5	26.0	181
Total			75.3	27.12	177.7	1256
SUPPER						
Roast beef—natural gravy	240	1 large serving	40.6	14.4		292
Dumplings	120	3 medium	7.6	1.1	24.6	139
Creamed peas	100	½ cup	5.6	.26	13.4	78
Carrot strips	100	1 large	1.2	.3	9.3	45
Bread	70	2 slices	6.0	2.0	36.0	186
Fresh butter	10	1 pat	.1	8.1		73
Jam	40	2 tbsp.	.2	.12	28.4	116
Sliced pineapple	100	1 slice	.4	.1	14.5	60
Skim milk	250	one 8-oz. glass	18.0	.5	26.0	181
Total			79.7	26.88	152.2	1170
EVENING NOURISHMENT						
Vegetable soup	175	1 cup	5.75	1.5	14.5	94
Toast	70	2 slices	6.0	2.0	36.0	186
Butter	10	1 pat	.1	8.1		73
Skim milk	250	one 8-oz. glass	18.0	.5	26.0	181
Total			29.85	12.1	76.5	534
Grand total			219.05	83.22	578.9	3941

salmon satisfied, if relishes or condiments were added alone or in combination with a sufficient amount of skim milk to make a creamy spread. When canned meats were used they were floated in hot water to remove the fat.

Because candy and sweet carbonated beverages tend to depress the appetite they should be served only after the evening meal.

No method of preparation was found to be feasible in removing the following foods from the soldiers' banned list:

Canned meats, except in sandwiches or casseroles
"Plain" spaghetti or rice
Beets, except pickled beets occasionally
Spinach

(Cont'd. p. 215)

TABLE 2

Menus for hepatitis diet

5 January 1945	6 January 1945
Breakfast	*Breakfast*
Fresh orange juice	Canned grapefruit
Oatmeal—skim milk—sugar	Cornflakes—skim milk—sugar
Hot cakes—butter—maple syrup	Soft-cooked egg
Coffee—skim milk—sugar	Toast—butter—jam
Skim milk	Coffee—skim milk—sugar
	Skim milk
Dinner	*Dinner*
Swiss steak	Hamburger
Baked potato	Catsup
Boiled cabbage	Hash-browned potatoes
Orange date salad	Carrot strips
Bread—butter—jam	Bread—jam
Maple ice cream	Peaches
Coffee—skim milk—sugar	Skim milk
Skim milk	
Supper	*Supper*
Roast beef—natural gravy	Grilled steak
Baked navy beans	Pickle relish
Cold tomatoes	Escalloped potatoes
Bread—butter—jam	Corn
Baked custard rice pudding —fruit sauce	Bread—butter—jam
Skim milk	Fruit compote
	Cocoa
Evening Nourishment	*Evening Nourishment*
Chicken salad sandwich	Vegetable soup
Cocoa	Toast—butter
	Skim milk
7 January 1945	8 January 1945
Breakfast	*Breakfast*
Blended juice	Fresh orange juice
Wheat cereal—skim milk—sugar	Shredded Wheat—skim milk—sugar
Soft-cooked egg	Frosted sweet rolls—butter —jam
Toast—butter—jam	Coffee—skim milk—sugar
Coffee—skim milk—sugar	Skim milk
Skim milk	
Dinner	*Dinner*
Roast chicken—gravy	Cold roast beef
Baked sage dressing	Mustard sauce
Jellied vegetable salad	Potato salad
Bread—butter—jam	Fennel
Pears	Bread—butter—jam
Cocoa	Fresh fruit
	Cocoa
Supper	*Supper*
Beef stew—vegetables	Cream of tomato soup
Dumplings	Baked tuna noodle casserole
String beans	Cabbage green pepper salad —French dressing
Bread—butter—jam	Bread—butter—jam
Vanilla pineapple pudding	Fruit cocktail
Skim milk	Skim milk
Evening Nourishment	*Evening Nourishment*
Steak sandwich	Hamburger in bun
Pickles	Catsup
Skim milk	Sliced onions

TABLE 2—*Continued*

9 January 1945	10 January 1945
Breakfast	*Breakfast*
Baked apple	Fresh orange juice
Whole wheat cereal—skim milk—sugar	Pep—skim milk—sugar
Soft-cooked egg	Soft-cooked egg
Toast—butter—jam	Toast—butter—jam
Coffee—skim milk—sugar	Coffee—skim milk—sugar
Skim milk	Skim milk
Dinner	*Dinner*
Swiss steak	Braised beef—barbecue sauce
Mashed potatoes	Oven-browned potatoes
Pickled beets and onions	Asparagus
Bread—butter—jam	Bread—butter—jam
Lemon Jello	Pineapple
Cocoa	Skim milk
Supper	*Supper*
Sliced hot turkey	Hot roast beef sandwich—gravy
Rice—gravy	Succotash
Peas	Carrot strips
Combination fruit salad—fruit salad dressing	Bread—butter—jam
Bread—butter—jam	Tangerines—dates
Butterscotch pudding	Skim milk
Skim milk	
Evening Nourishment	*Evening Nourishment*
Roast beef sandwich	Salmon salad sandwich
Pickle relish	Cocoa
Skim milk	
11 January 1945	12 January 1945
Breakfast	*Breakfast*
Pineapple juice	Fresh apple sauce
Cornflakes—skim milk—sugar	Oatmeal—skim milk—sugar
Hot cakes—butter—maple syrup	Soft-cooked egg
Coffee—skim milk—sugar	Toast—butter—jam
Skim milk	Coffee—skim milk—sugar
	Skim milk
Dinner	*Dinner*
Baked meat balls	Roast chicken—gravy
Spaghetti—tomato sauce	Mashed potatoes
Cole slaw	String beans
Bread—jam	Hot rolls—butter—jam
Tutti-frutti ice cream	Fresh fruit
Coffee—skim milk—sugar	Skim milk
Supper	*Supper*
Steak	Stuffed beef rolls
Baked potato	Creamed carrots and peas
Savory onions	Fennel
Waldorf salad	Bread—butter—jam
Bread—butter—jam	Fruit Jello
Blanc mange—caramel sauce	Skim milk
Skim milk	
Evening Nourishment	*Evening Nourishment*
Split pea soup	Steak sandwich
Toast—butter	Mustard
Skim milk	Sliced onions
	Coffee—skim milk—sugar
	Skim milk

Sweet potatoes, canned or dehydrated
Dehydrated white potatoes, except hash-browned
Sauerkraut, except occasionally

THE HEPATITIS DIET

The hepatitis diet is composed of approximately 225 gm. protein, 500 gm. carbohydrate, 75 gm. fat, and 3500 calories.

The high protein figure was reached by offering a minimum of 1 lb. lean beef and 1 qt. skim milk (200 gm. skim milk powder) daily. The skim milk was invaluable in evacuation hospitals when it was impossible to get fresh lean meat, and in treating severely ill patients who usually were unable to retain any other food. Noteworthy was the case of an officer who could not take or retain any food until he was offered skim milk. After several days of this liquid nourishment, during which he requested seconds, he developed an appetite and by the fifth day he could eat the full hepatitis diet (5). The serving of one half pound lean beef twice a day proved more than satisfactory, not only because of its high methionine content but also because the average soldier ingested larger quantities of carbohydrate when a tempting piece of meat was served on his tray.

The fats employed in the daily menu were in the form of egg yolks, fresh and canned butter, and Mazola oil. Because of the high cholesterol content of the egg yolk (5 gm. per egg) only one fresh egg a day was permitted and that for morale purposes. It was usually served at the morning meal but occasionally in a salad. If available, one pat (10 gm.) of fresh butter was served with each meal. In addition, approximately two pats were used in preparation, but if the supply was limited canned butter or Mazola oil was substituted.

Table 1 lists the constituents of a day's menus while Table 2 presents menus for an 8-day period. All were used at the study hospital during January 1945.

A glance at a weight record substantiates the necessity of a high caloric diet since a loss of from 10 to 60 lb., as well as the loss of muscle tone and quality, was not uncommon. Experiments showed that, to gain weight, patients required over 2800 calories. If they ingested less than 2000 calories, they vegetated; below 1500 calories, they deteriorated. In order to ensure the weight gain desired for quick recovery (one half pound per day) it was estimated that 3300 or more calories was required. For this reason nourishment between meals was encouraged. Five or six small feedings a day were recommended for those who could not eat average servings.

TABLE 3

Nurses' Daily Check Sheet for Ward Surgeon and Dietitian

Date: 10/16/44 to 10/21/44 Ward 403

Estimation of intake (hepatitis diet)

Legend:
1 = entire meal eaten
½ = one-half meal eaten
⅓ = one-third or less of meal eaten
\+ = second helping plus entire meal eaten

NAME	BED NO.	CALORIES SERVED																		CALORIC DAILY AVERAGE
		3458			3495			3579			3907			3990			3627			
		B	D	S	B	D	S	B	D	S	B	D	S	B	D	S	B	D	S	
	1	1	1	1	1	+	1	1	1	1	+	1	1	1	+	1	1	+	1	3959
	2	1	+	1	1	+	+	1	1	1	1	1	1	1	+	1	1	1	1	3691
	3	⅓	1	1	0	⅓	0	0	0	⅓	1	½	1	1	1	1	1	+	1	2519
	4	⅓	¼	0	½	1	¼	1	⅓	1	½	⅓	⅓	1	0	½	¼	1	½	1156

WARD MANAGEMENT

The Nurses' Daily Check Sheet (Table 3) was most effective in approximating the caloric intake of each patient. By correlating it with the daily weight record, the ward surgeon could determine quickly which of his cases required a more accurate check by the dietitian.

A typed menu (Table 4) was sent to the ward daily. Included were the household measure, to ensure uniform servings, and the total caloric figure, which was inserted on the check sheet by the charge nurse and used by her in estimating the daily caloric average for the week.

When the end of the 6-day period was reached, the ward surgeon discussed the results with the dietitian and designated the patients who were to be placed under more critical observation. The form used in checking the individual tray was left to her discretion but to record findings she was urged to employ a form like that in Table 5, which was attached to the patient's chart.

A periodic check of questionable cases was of value for several reasons. Even though ward rounds were made at mealtime the psychological effect of the extra attention could not be overlooked. Also, the psychosomatic could thus be often detected. But most important of all, a more accurate figure on intake, with which to correlate the weight, was thus secured. If after several observations there was no improvement, the patient was usually administered one unit of plasma, an excellent source of methionine, every 6 to 8 hours or for every tray refused until the proper diagnosis was established or he was able to take the full diet (6). This had another beneficial effect in that some neurotics could often be thus persuaded to resume their regular meal schedule.

TABLE 4

Sample daily menu

Mess Office
182nd Station Hospital (US)
APO 382

15 January 1945

Hepatitis diet

BREAKFAST	HOUSEHOLD MEASURE	CALORIES
Fresh orange juice	one 8-oz. glass	
Whole wheat cereal	¾ cup	
Skim milk—sugar		
Soft-cooked egg	1	
Toast	2 slices	
Butter	1 pat	
Jam	2 tbsp.	
Coffee—skim milk—sugar		
Total		981
DINNER		
Choice steak	1 large	
Mashed fresh potatoes	½ cup	
Savory string beans	½ cup	
Fruit salad	½ cup	
Fruit salad dressing		
Bread	2 slices	
Butter	1 pat	
Jam	2 tbsp.	
Butterscotch pudding	½ cup	
Skim milk	one 8-oz. glass	
Total		1256
SUPPER		
Roast beef—natural gravy	1 large serving	
Dumplings	3 medium	
Creamed peas	½ cup	
Carrot strips	3 medium	
Bread	2 slices	
Butter	1 pat	
Jam	2 tbsp.	
Sliced pineapple	1 slice	
Skim milk	one 8-oz. glass	
Total		1170
EVENING NOURISHMENT		
Vegetable soup	1 cup	
Toast	2 slices	
Butter	1 pat	
Skim milk	one 8-oz. glass	
Total		534
Grand total		3941

The use of the Nurses' Daily Check Sheet was a means of providing not only valuable information with regard to the caloric intake of the patients, but also aroused the interest of all ward personnel. By thus emphasizing the importance of nutrition in the treatment of hepatitis, the ward surgeon, nurse, and ward men became so aware of the import of food that they never failed to report the most incidental likes and dislikes, state and shortages of food—in short, anything that interfered with the ingestion of the proper amount and type of food. They also took particular pains to encourage men with anorexia to eat. It was especially gratifying to have the ward men point with pride to a patient who a few days previously had refused his tray and who now was asking for seconds. Their interest, of course, was transmitted to other patients and no doubt was instrumental in changing their attitude toward returning to combat. This awareness of the importance of serving good, nutritious food spread throughout each hospital so that it was not at all unusual to have the commanding officer, chief of medicine, chief nurse, and mess officer make rounds during serving time. Perhaps one dramatic result which was repeated innumerable times was partly responsible—the rapid healing of tissue and wounds in surgical patients ill with hepatitis, after transfer to the hepatitis ward.

MESS DEPARTMENT PERSONNEL

Ward rounds by the dietitian, the use of the Dietitian's Check Sheet, conferences with the chief of medicine, ward officers, nurses, and ward men were essential for good cooperation between departments. Patients quickly sensed the desire of personnel to work together for their welfare, and looked forward to visits by members of the department which played such a vital role in their recovery. Visits by the mess sergeant, too, brought many favorable comments.

Very successful were lectures given by the chief of medicine to mess department personnel in which their part in the treatment of these soldiers was explained. Their eagerness to make the food as palatable as possible and to experiment in various methods of preparation cannot be too highly commended. In fact, if the dietitian failed to make a report on the degree of satisfaction with which each meal was received, they became perturbed.

COST OF DIET

When the hospital census began to show a sharp increase in the number of hepatitis cases it became difficult to purchase the items required with the daily 35-cent supplemental ration. This was especially true in station hospitals where often a high percentage of the patients were ill with the disease. In order to determine what additional expense was incurred in serving this diet, 3 hospitals scattered throughout the theater were requested to submit at the end of each month a list of the supplementary foods procured and the cost of each.

Table 6 is an account submitted by the study hospital to Headquarters Peninsular Base Section for November 1944. As was true of the December 1944, and January, February, and March 1945 reports, it revealed that the average cost per patient per day, over and above the B ration, was approximately 65 cents, almost double that allowed for the supplementary ration. This demonstrated the need of an increase in the latter for hepatitis cases because it was impossible to serve an adequate diet without using food indicated for other patients, even though only 50 cents of the B ration was used each day for the hepatitis patient. (The cost of the B ration was 75 cents per man per day.)

After a 5-month check, all hospitals were authorized to expend up to 55 cents per hepatitis patient per day. Accompanying each requisition was a certificate stating that it was essential for the patient's recuperation. It also included separate expenditures for the hepatitis diet. The Surgeon and the Quartermaster, MTOUSA, cooperated in supplying these special items when available in the theater.

TABLE 5

Dietitian's record of patient's daily intake

Hepatitis diet

Name ..... ASN ..... Org.: Port Battalion

Type: Psychosomatic disorder* Usual wt.: 150

	BREAKFAST			LUNCH			DINNER			INTERVALS			TOTAL			CALORIES	WEIGHT
	C	P	F	C	P	F	C	P	F	C	P	F	C	P	F		
15/12/44	79	11	2	198	59	16	126	54	9	41	21	5	444	145	32	2644	138
16/12/44	91	26	1	45	18					61	39	5	197	53	6	1156	
17/12/44	54	11	2	53	36	4	88	36	4	25	18		220	101	10	1374	
18/12/44	30	12	3	43	3	1	48	3	1				121	18	5	601	136
19/12/44				48	3	1	18	3	1	30	19	2	96	25	4	520	
20/12/44	77	11	2	53	21	1	93	24	1	25	18		248	74	4	1324	
21/12/44	40	18		87	23	6	68	21	1	31	12	1	226	74	8	1272	
22/12/44				83	21	1	68	21	1				151	42	2	790	136
23/12/44	39	20		43	21	1	79	37	3	10			171	78	4	1032	
24/12/44	28	5		58	36	4	113	54	7				199	95	11	1275	

* This patient craved attention and used every trick imaginable to obtain it. Ambulatory patients and ward personnel waited on his every desire until the diagnosis was verified. Being allergic to plasma, of which he was well aware, he was administered glucose and soon recovered.

TABLE 6

FOOD ITEM	COST
Beef, roasting and frying	$12.90
Milk, powdered, skim	.40
Lactose	.56
Vegetable oil	.09
Chicken, canned	2.80
Tuna, canned	.62
Noodles	.03
Spaghetti and macaroni	.05
Grapefruit	.43
Apple sauce, canned	.16
Pineapple	.12
Fruit cocktail	.16
Apricots	.19
Fruit juice	.51
Asparagus	.32
Peas	.18
Corn	.06
Total cost per hepatitis patient, November 1944	$19.58
Average cost per hepatitis patient per day in addition to regular type "B" ration	.65

RESULTS

The benefits derived from the use of the hepatitis diet are many and exceed expectations. The prime purpose of its institution was to shorten the period of hospitalization and lessen chronicity and recurrence. This was accomplished because the high methionine, low cholesterol diet eliminated damaging agents and furnished the constituents necessary to regenerate the liver cells. It was so much more palatable than

that formerly offered that requests for seconds soon arrested loss of weight. A gain of from 2 to 6 lb. a week was not uncommon, thus ensuring a more rapid recovery and early return to duty.

During the 1944–45 peak, it was estimated that 5 days per man were saved—a total of 30,000 days when it is noted that there were 6000 cases in the theater at that time. Also, the number of chronic and recurrent cases was nearly eliminated so that the grand total in man days actually saved cannot be computed.

CONCLUSIONS

1. The high carbohydrate, medium protein, low fat diet proved inadequate in the treatment of infectious hepatitis not only because the diet was nutritionally poor but also because it was unpalatable and offered so little variety that the patient often refused to eat what was served him.

2. The high protein, high carbohydrate, low (rancid) fat diet resulted in marked improvement and contributed largely to the quickened recovery of the patient.

3. Special consideration in the preparation of the diet and the serving of adequate amounts of certain foods, particularly fresh lean beef and skim milk, seemed to facilitate rehabilitation.

4. Emphasis on teamwork between the ward surgeon, nurse, dietitian and mess personnel effected gratifying results.

REFERENCES

(1) BARKER, M. H., CAPPS, R. B., AND ALLEN, F. W.: Infectious Hepatitis in the Mediterranean Theater of Operations, United States Army, p. 177.
(2) *Ibid.*, p. 175.
(3) *Ibid.*, p. 176.
(4) *Ibid.*, p. 176.
(5) *Ibid.*, p. 178.
(6) *Ibid.*, p. 178.

Frances Floore Writes From Greece

A LETTER dated January 11, from Frances Floore, who is with UNRRA in Greece, reads in part as follows: "Life here is on the grim side these days with strikes and more strikes and inflation soaring around and zooming prices out of sight. It has been interesting to watch, and very disillusioning. Let's hope it doesn't happen at home as it does things to the heart and soul of a people that are awful to see. And these people have suffered so much they can't understand (nor can anyone else) why this new plague is among them.

"We had a very interesting Christmas with plenty to eat and four glorious days when we didn't have to work. Our efforts all went toward giving the Greek staff a good time and seeing that our Greek friends had a few of the little necessities that we take for granted. In each package I tried to include stockings, cigarettes, or cosmetics, a few cans of food and a couple of bars of soap and some candy. These they have missed tremendously, and buying them on the market at the present prices would take the income of a banker.

"We now have ten dietitians and expect two more to round out our program. The child feeding program seems to move along at a snail's pace but at the present time we are feeding about 600,000 children with a prepared meal. This figure should be greatly increased by February. We've tried to concentrate on the villages in the mountainous areas as they were not accessible to the Swiss Red Cross and are most in need of help. Our ration for February is a great improvement over January as more food is coming in and it is more varied and will relieve the monotony of dried soup and pulses, which has been their 'bread and butter' for so long. The children are all terribly stunted in growth and look three or four years younger than they are.

"Some time when I feel that there is something definite to tell you about I'll write the article I promised. Now we're too beset with frustrations of transport difficulties, villages being isolated because of ice and snow, food shortages, lack of personnel and the economic instability of the entire country to write a very cheery story, but come spring, things will be different. In the meantime, anything can happen and we are all well aware of it."

In a news sheet which accompanied Miss Floore's letter some of the prices of commodities are given and the percentage increases over prewar levels. It is stated that salaries and wages continue to remain 10 to 25 times greater than prewar levels, and that first necessity goods have gone up 200 to 450%.

A Nutritional Review of Large-Scale Feeding Operations (U. S. Army)[1]

JANE C. EBBS

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THE Master Menu is planned in the Requirements and Menu Planning Branch of the Subsistence Division, Office of the Quartermaster General, three months in advance of its intended use in the field. The menu, composed of three meals per day for a 30 or 31-day period, is planned to provide the soldier with palatable and highly nutritious rations.[2] From the beginning the plans for the Master Menu have met or exceeded the allowances of protein, minerals, and vitamins recommended by the National Research Council, Food and Nutrition Board (1). Consideration has been given to the number of soldiers under 21 years of age for whom the recommended allowance of protein, calcium, iron, vitamin A, thiamin, riboflavin, niacin, and ascorbic acid is higher than that for the adult. Since under conditions of modern warfare a soldier must be able to withstand periods when he cannot be supplied with or cannot consume an optimal nutritional diet, the Master Menu or Field Ration A is planned to provide not only what the soldier needs daily, but also sufficiently large amounts of vitamins and minerals to permit storage and tissue saturation as a precaution against temporary deprivation or intense physical effort.

Seasonal availability plays a large role in the choice of foods to appear on the menu from month to month. In the absence of one food high in a particular vitamin, due to non-availability, the burden is taken up by available foods rich in that particular vitamin.

It is of interest to note which of the food classes carries the burden for each specific nutrient. (*See* Fig. 1–7). In the armed forces, food has been classified on the basis of nutritive contribution and menu planning into 17 food groups (2): Meats, Fish and Poultry; Eggs; Milk and Milk Products; Butter and Spreads; Fats, other; Sugars and Syrups; Cereals and Grain Products; Legumes; Vegetables, Green and Yellow; Tomatoes; Citrus Fruits; Potatoes; Vegetables, other than Potatoes and Green and Yellow Vegetables; Fruits, other than Citrus and Dried; Dried Fruits; Beverages; and Miscellaneous, including pickles, etc.

[1] Received for publication August 16, 1945.

[2] In Army terminology a ration is the food for the soldier for one day.

OVER-ALL PICTURE OF AVERAGE DAILY RATION

Figure 8 illustrates the average weight of each food group in planned procurement, expressed on a daily basis for each soldier. The poundage on a per man per day basis, with the contribution of specific nutrients per day by item and subsequently by food group for each month, was tabulated. The poundage and nutritive value of each food group were estimated. (*See* Table 1).

The poundage of each item of food procured is always expressed in terms of raw weight, *e. g.*, in the case of meat the weight is expressed in wholesale cuts before trimming for table use, in the case of fruits and vegetables the weight is expressed as raw weight or "as purchased." Unless this is understood, these poundage values taken at face value are apt to be misleading and appear excessively high. When the total poundage of each item, however, is multiplied by the nutritive value "as purchased," the resulting nutritive value of the item is expressed as the nutritive value of the edible portion. In other words, the correction for refuse, etc., is automatically made by the calculation:

Weight × As Purchased Nutritive Value (from *Tables of Food Composition* (3)) = Nutritive Value of Edible Portion (of that weight of the item)

FOOD GROUP CONTRIBUTION TO NUTRITIVE VALUE OF RATION

The "pie" charts (Fig. 1–7) show the contributions to the total amounts of the important nutrients made by each food group in the ration for a year.

In the case of calories (Fig. 1), the cereal group runs a close second to the meat group for the major contribution of calories. The calculated contribution of the meat group to the calorie value of the

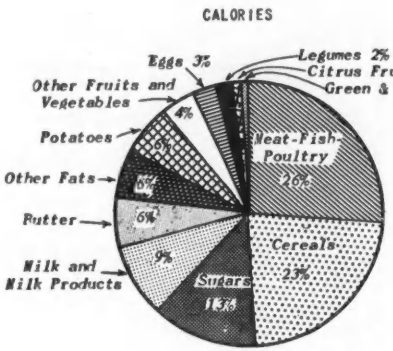


FIG. 1

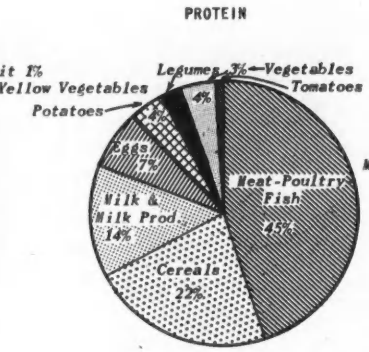


FIG. 2

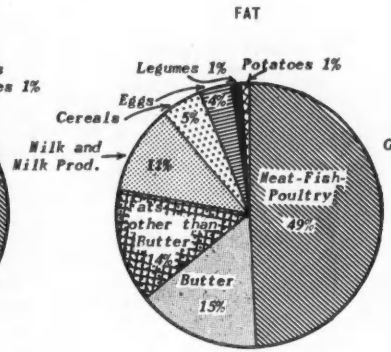


FIG. 3

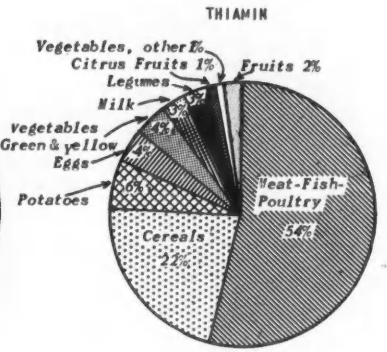


FIG. 4

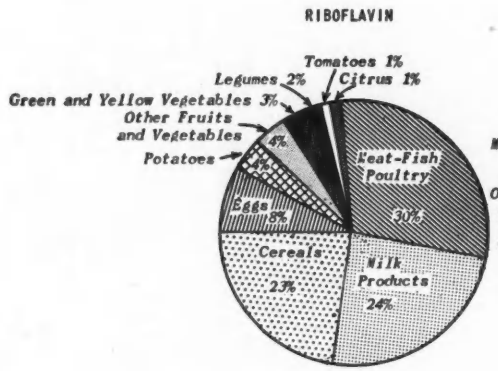


FIG. 5

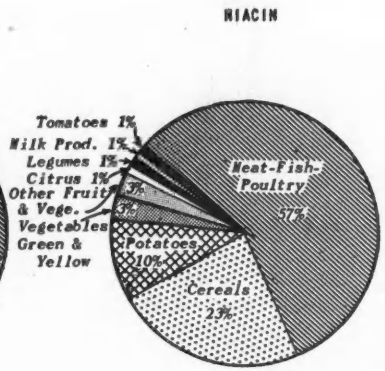


FIG. 6

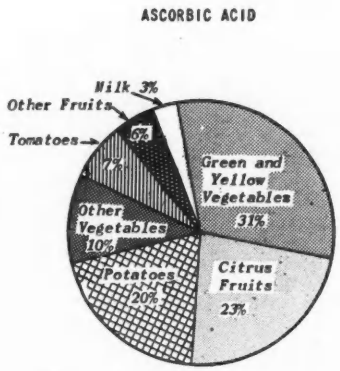


FIG. 7

FIGS. 1–7. *Contribution of each food group to specific nutrients.*

Master Menu is higher than in usual dietary calculations because the figures refer to carcass wholesale cuts containing kidney fat; the difference in percentage contribution would be less if the visible fat were discarded and only the contribution of protein and cereal group which also makes a sizable contribution (Fig. 2).

The effect of expressing the meat allowance in terms of wholesale cuts is graphically illustrated by Figure 3 which shows that 49 per cent of all the fat

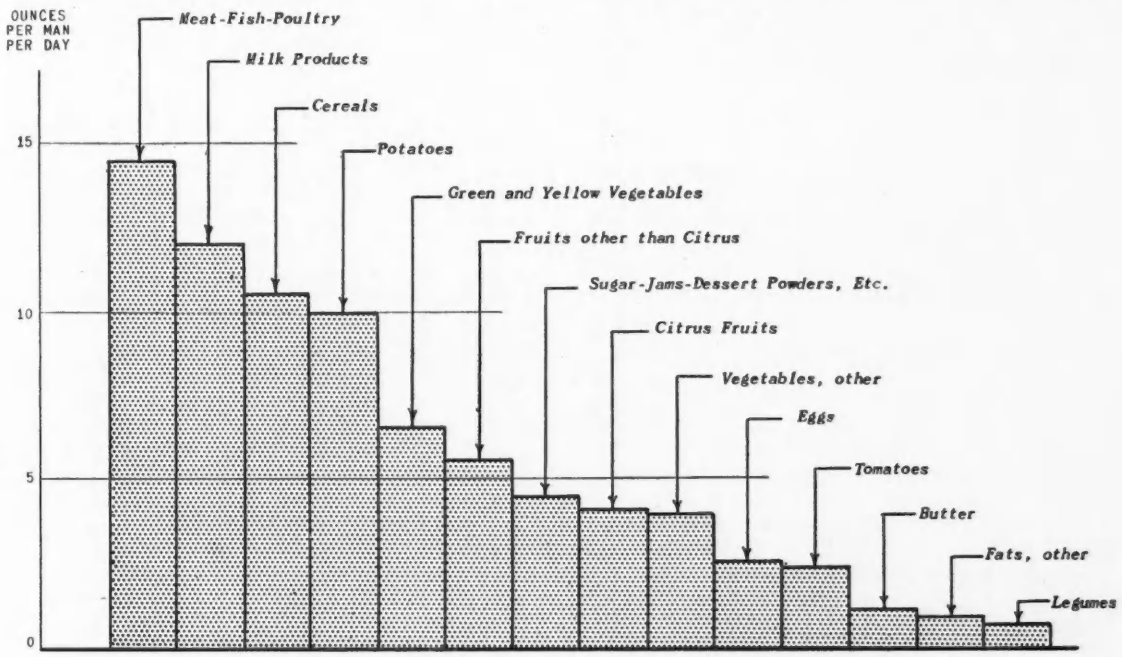


FIG. 8. *Ounces of each food group consumed on a per day basis during 1944.*

TABLE 1

Average group contribution of each nutrient during 1944

PER MAN PER DAY	MEAT GROUP	EGGS	MILK & MILK PRODUCTS	BUTTER	FATS, OTHER	SUGARS	CEREALS	LEGUMES	VEGETABLES, GREEN & YELLOW	TOMATOES	CITRUS FRUITS	POTATOES	VEGETABLES, OTHER	FRUITS, OTHER	FRUITS, DRIED	BEVERAGES	MISCELLANEOUS	AVERAGE DAILY NUTRITIONAL VALUE OF RATION
Pounds	.925	.166	.761	.07	.057	.298	.668	.041	.410	.135	.265	.681	.250	.277	.034	.081	.059	5.18
Calories	1013	105	354	233	227	498	929	71	56	21	39	229	52	69	44	9		3944
Protein (*gm.*)	57	9	17				28	4	3	1		5	2					126
Fat (*gm.*)	86	8	21	26	25		9	1				1						177
Calcium (*mg.*)	35	36	586	5		13	101	21	45	9	22	26	25	10	7	3		944
Iron (*mg.*)	8.6	1.8	0.9	0.1		0.6	6.4	1.5	1.6	0.3	0.3	1.9	0.4	0.3	0.5	0.1		25.3
Vita min A (*I.U.*)	1938	673	1055	1050	5		20		5525	470	26	392	52	465	190			11860
Thiamin (*mg.*)	1.98	.14	.11				.85	.09	0.14	.05	.06	.23	.03	.03	.01			3.72
Riboflavin (*mg.*)	0.95	.24	.76				.72	.05	0.11	.03	.02	.13	.06	.05	.01			3.13
Niacin (*mg.*)	19.5		.5				7.7	0.4	1.1	0.3	0.4	3.0	0.3	0.4	0.2			33.8
Ascorbic acid (*mg.*)	0		4						42	9	31	27	13	8				134

"invisible" fat of meat, alone, were considered in comparison with the cereal group, or the poundage expressed in retail cuts.

As would be expected, the meat group is the largest contributor of protein, exceeding by 50 per cent the ingested by the soldiers comes from this group. Again, it is shown that the meat group poundage in Army feeding is not comparable to poundage of meat expressed on a retail basis as consumed by civilian populations.

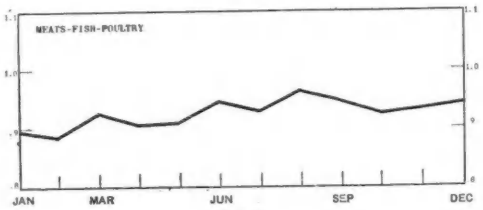
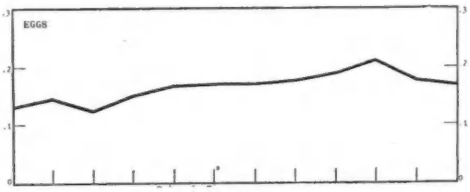


FIG. 9



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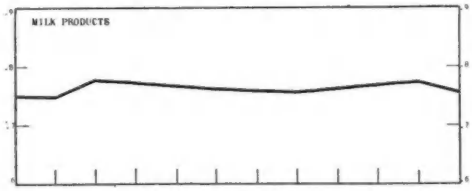
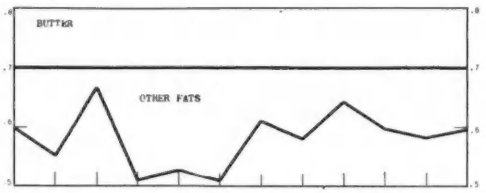


FIG. 11



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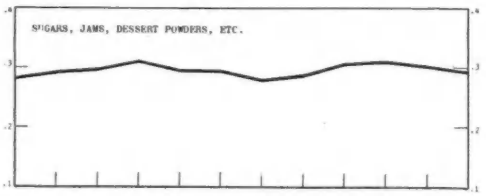

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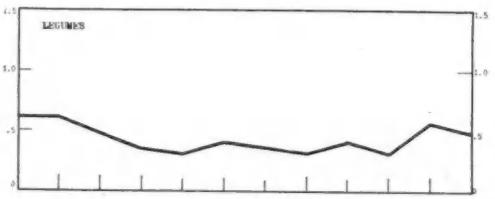

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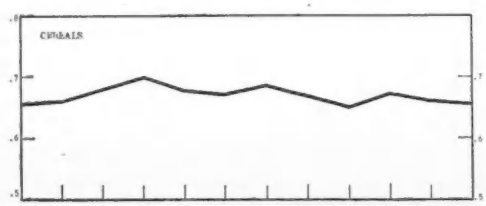

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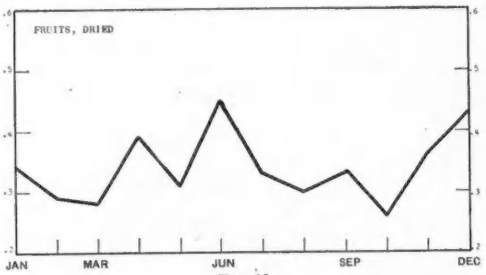

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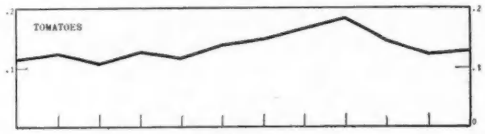
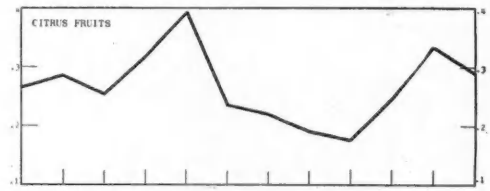


FIG. 17



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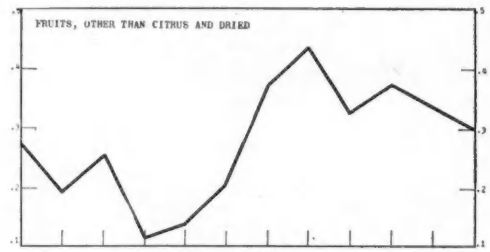
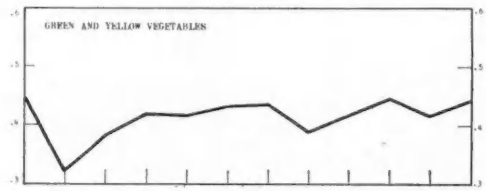


FIG. 19



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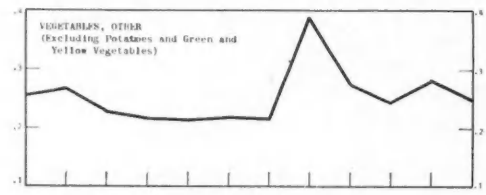

FIG. 21

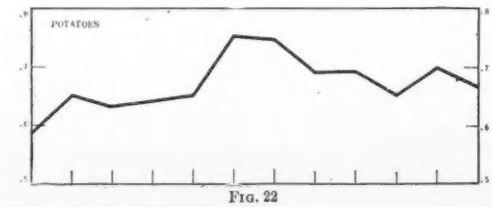

FIG. 22

FIGS. 9–22. *Average pounds consumed per man per day by monthly average.*

In considering the B vitamins, it at once becomes apparent from Figure 4 that the chief contributor of thiamin in Army feeding is the meat group. It is exceedingly difficult to plan a palatable ration which will assure meeting the National Research Council's recommended daily allowances of thiamin at the calorie level believed to be needed by the armed forces, without relying heavily on the meat group of foods. This is true even with the use of enriched flour and bread, and of "restored" cereals.

In the case of riboflavin, the meat group again leads in contribution as seen in Figure 5. Cereals and milk, however, are close competitors. In the author's opinion, the milk products group would be the major contributor if more milk products were made available. It is again emphasized that the Master Menu is planned in the Subsistence Division on the basis of availability. It is a well-known fact that the amount of fluid milk available in Army camps has not been at the high point compatible with views of the nutritionists, but it has been sufficient to provide a minimum of one pint fluid milk equivalent per day. If the amount of milk and ice cream ingested by the soldier in the post exchange were considered, the food group providing the largest percentage of riboflavin might well be the milk group.

In the case of niacin (Fig. 6) the chief contributors are the meat and cereal groups. This was to be expected. It is interesting, however, to observe the high contribution from potatoes.

In Figure 7 the ascorbic acid contribution is shown. In the case of this vitamin, losses encountered in cooking of vegetables were not considered. Figures 16–21 illustrate how the burden of ascorbic acid contribution varies with the season.

SEASONAL VARIATION AND ITS EFFECT ON NUTRITIVE VALUE

Figures 9–22 show the monthly planned poundage of each food group expressed on a per man per day basis. In the case of milk products (Fig. 11), sugar (Fig. 13), and butter (Fig. 12), seasonal variation was not significant. In the meat group (Fig. 9) availability played a large role. This is true with respect to the total amount as well as the kind of meat. During April and May, for example, there was a forced issue of pork (glut on the market) which caused pork to be predominant in the meat issue. During those months and on into June this situation affected the "fats, other," group (Fig. 12). It will be observed that during that period the planned issue of fats dropped due to the trimming of fat from the pork prior to cooking. Despite such trimming, as previously discussed (3), increased pork issue leads to increased fat left on the soldier's plate to be discarded as garbage.

Knowledge that the calculated fat would not all be ingested caused those planning the menu to increase the inclusion of other foods to assure sufficient calories for the men. This was achieved by increasing the cereal group (Fig. 15). The legume group (Fig. 14) does not normally exhibit monthly or seasonal fluctuations but during the time represented the impact of overseas shipments to liberated areas was felt. The following groups: eggs; tomatoes; green and yellow vegetables; potatoes; and vegetables, other, all exhibited seasonal fluctuations. Figures 17–22 illustrate the extent to which one group was in curtailed supply during the season, with one or more of the other groups taking their place in providing ascorbic acid. It may be well to add here that the great difficulty is in providing sufficient ascorbic acid during the various seasons to ensure an ingested level of 75 mg. a day and still have a practical menu from the meal planning and acceptability standpoint. The just-mentioned figures show in part how this is done.

PRACTICAL NUTRITIONAL AND DIETETIC PROBLEMS

The prediction of the nutritive value of Army rations, foreign rations, or of the food produced in other large-scale feeding operations, is based on the figures for food "as purchased" in *Tables of Food Composition* (4) which in turn are based on *Proximate Composition of American Food Materials* (5). These figures involve the use of refuse factors which do not, in a number of instances, coincide with values observed in Army installations. That differences in the refuse factor applied to the "as purchased" value of a food may introduce serious errors in the calculation of its nutritive value as served, may be illustrated as follows:

Let us take, for example, the common potato. The *Tables of Food Composition* list the caloric and nutritive value of the potato based on a 16 per cent refuse factor for loss in preparation and peeling. Observations by military personnel indicate the loss to be considerably greater. Actual weighings at the Pentagon Post Restaurant, Washington, D. C., show that the refuse factors range between 22 and 26 per cent when potatoes are peeled in a machine and eyed by hand. It is probable that peeling by hand in a large-scale operation increases the refuse factor over that found at the Pentagon. If preparation losses are such in the potato, it is logical to assume that similar losses occur in the preparation of other vegetables of the root type. There is a vast difference also in the refuse factors for lettuce, cabbage and the like, when purchased wholesale as against retail. In the latter case, a fair amount of unattractive leaves have already been removed; this is not true when the vegetable is procured in a crate on a wholesale basis.

If there is a 50–100 per cent increase in refuse, due to large-scale procurement and preparation, over average figures accepted at this time, the caloric value of a diet or a menu is overestimated. Research is needed to determine expected refuse in

vegetable preparation and the proximate composition of such foods as procured and prepared for quantity feeding. Only by such painstaking studies can valid estimates of caloric intake and nutritive value be made.

Another related question applies to the caloric contribution from meat procured wholesale. From Figure 3 it will be observed that 49 per cent of all fat in the soldier's ration comes from meat. Examination of Table 1 shows that the soldier receives an average of 177 gm. fat per day. By means of the *Tables of Food Composition*, this fat is calculated as ingested by the soldier. A dietitian will at once challenge such an assumption on the basis of practical experience. Moreover, a simple calculation shows that 177 gm. fat in a 3944-calorie intake means that 40 per cent of the total calories are from fat. This is not in line with the opinion that 30 to 35 per cent of the calories consumed should be from fat (1).

In actual practice, an appreciable amount of the fat in carcasses is trimmed off and rendered. How much is actually eaten is unknown, for much used fat from deep-fat fryers and the like eventually goes to salvage. The U. S. Navy has found (6) that the calculated fat intake estimated from pounds of food issued, times the nutritive value of the items issued, provided 170 to 180 gm. fat per man per day. Actual analyses of the foods following preparation and cooking showed the fat content to be 100 gm., not 170 to 180 gm. If a similar situation obtains in the Army, which one would expect, by means of simple arithmetic it could be determined that the caloric intake of the soldier (Table 1) is 3251 rather than 3944 calories.

The result is startling, for we know by actual experience that 3900 to 4000 calories per man per day on paper has been sufficient for the soldier. But was the 3900 to 4000 calories on paper, actually 3200 to 3300 calories eaten? Does this mean that the soldier undergoing military training requires only slightly more calories than the moderately active man?

To many of those who have been planning menus for the armed forces such posers mean that more research, more thought, more pooling of common experiences are needed. It means, too, that a review of our accepted caloric value of food is needed, both for institution and home or small-scale estimates.

It further raises questions concerning the recommended daily allowances for vitamins. For if a ration supposedly furnishing 3900 calories actually supplies only 3200 calories on the basis of consumption, then the vitamin allowance may also be based on a false estimate of actual intake.

SUMMARY AND CONCLUSION

The monthly Master Menu for Field Ration A, as planned in the Requirements and Menu Planning Branch, Subsistence Division, Office of the Quartermaster General, will provide a ration for the soldier high in nutritive value. The goal has been to provide sufficient protein, minerals, and vitamins for the soldier under 21 years of age as well as the older man, and sufficient specific nutrients for tissue saturation and storage. The latter purpose anticipates that some time the soldier may, because of battle conditions, be unable to receive or consume a nutritionally adequate ration.

Poundages of food items have been discussed in relation to their contributions to the nutritive value of the ration. All Army poundage values are for wholesale cuts of meat, untrimmed for table use, and for fruits and vegetables in the raw "as purchased" state—*e. g.*, values are not for food poundages consumed, but for food in the raw, wholesale state. The nutritive values, on the other hand, are calculated for the edible portion without allowances for cooking losses.

Figures have been prepared to show the contribution of each food group in terms of the specific nutrients. These figures show which food groups carry the chief burden for each nutrient in a large-scale feeding program.

In planning such menus, seasonal availability as well as economic aspects must be considered. Figures have been included to illustrate monthly fluctuations in the amounts of different food groups used and the compensatory adjustments which result in the maintenance of fairly uniform levels of nutritive value.

A presentation and a discussion of deficiencies in tables of food composition now in use, and of current methods of estimating and calculating nutritive value of menus based on large-scale procurement, have been included in the hope of stimulating further interest in this subject.

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Messing Aboard a Large Carrier and a Modern Battleship[1]

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FEW reports have been published about the feeding of men aboard warships. Some knowledge of improvements made during the past two centuries can be gleaned, however, from the numerous texts upon naval hygiene that have appeared since the classical work of Lind (1). Texts upon naval law afford another source of information since these laws define the ration. Only a few summaries have appeared in the technical literature and in some of the printed annual reports describing naval activities.

The simplicity of the naval ration as late as 1879 is evident from the report of conditions aboard the *Tennessee* operating in the Asiatic area during that period (2). The food allowed per man per week consisted of preserved meat 24 oz., salt beef 32, salt pork 48, biscuit 98, flour 16, beans 19.5, rice 8, potatoes (desiccated) 4, and butter 4 oz. Not mentioned in this report, but listed in the ration law of that period were small amounts of coffee, tea, cocoa, condensed milk, molasses, cheese, pickles, pepper, mustard, and yeast.

The author of the report on the *Tennessee* estimated that this ration provided "albuminates" 170 gm., carbohydrates 532, fats 180, and salts 42. Most of the cooking was done in three "coppers." The author wrote, "day by day and month after month of the cruise, little or no variation occurs in the cooking."

In this same report is a complaint with a familiar sound about dehydrated foods, onions and potatoes: "Both these articles have proved failures on board this ship, notwithstanding every effort has been made by repeated trials and by varying the mode of cooking and serving to render them palatable and fit for eating." These desiccated potatoes of 1879 were made in Baltimore and the "evaporated onions" in New York.

The background of the present Navy ration law has been detailed by Phelps (3). For three years, starting in 1898, careful account was kept of all food consumed aboard the *Texas*. These data provided values for the ration laws of 1906 and 1907. Since that date the law has been modified to some extent but its basic features remain unchanged.

TABLE 1

Naval ration allowance of important items and the percentage actually used during a typical month at a large training station

FOOD ITEM OR EQUIVALENT	WEIGHT SERVED PER MAN PER DAY	AMOUNT USED*
	oz.	%
Bread	12	45
Meats, fresh	20	65
Vegetables, fresh	44	74
Fruit, fresh	16	101
Beverage, coffee	2	31
Milk, fresh	8	230
Butter	1.6	39
Cereals, starches, etc.	1.6	98
Cheese	0.5	64
Lard	1.6	21
Oils, sauces, vinegar	1.6	39
Sugar	5	50
Eggs	1.2 (eggs)	79

* These data were made available through the courtesy of Capt. John A. Fields, (SC), USN, U. S. Naval Training Center, Great Lakes, Ill.

While the law specifies definite amounts of each class of foodstuffs, it has sufficient flexibility to allow modifications in line with advances in nutritional science and in the interest of satisfying modern food tastes.

In Table 1 are shown the major items listed in this

[1] The opinions and views set forth in this article are those of the writers and are not to be considered as reflecting the policies of the Navy Department. Received for publication November 15, 1945.

ration law and the percentage of each actually used recently in a large naval station. The reflection of the tastes of modern men is evident, for they consume much less of the bread allowance as provided two generations ago, while on the other hand, they consume much more milk. During the period under consideration, the autumn of 1945, there was a national shortage of butter and meat. Hence these items were employed at a lower level than usual. The flexibility of this law, as we have already indicated, permits such changes as these without violating the law itself. These changes are possible when one class of foodstuffs can be exchanged for another of equal cash value. Thus, if men eat only half their bread allowance, the money value of the other half can be used for the purchase of milk.

During World War II the usual cost of this ration varied at the different stations from 48 to 62 cents daily. The importance of having well-trained commissary officers in charge of naval messes is evident, in order to select proper amounts of various classes of foods.

In order to simplify accounting during the war, ships were not obliged to operate under this law but were given a cash allowance per man per day. For large ships such as those considered in this report the allowance amounted to 60 cents per day within territorial waters and 65 cents outside the bounds of the nation. However, the ration law was adhered to very closely in most cases since the commissary officers aboard ship had been trained to apply it and continued to employ it as their basic guide.

When large ships such as the carrier described here left port they were provisioned for 90 days. Suggested provision lists were provided when the ship took aboard supplies, but these were modified considerably because some items were not available and because they did not always accord with the past experience of the officer in charge.

Only limited amounts of perishable items were stored. Fresh milk and lettuce tend to spoil after a week or ten days in cool storage. Green tomatoes and peppers last somewhat longer. After about a month at sea, however, the available salad ingredients were carrots, potatoes, apples, raisins, cabbage, and canned fruits.

The variety of food aboard ship is impressive, compared with that of a century ago. An approximate idea of the different foods used can be gained from Table 2, which indicates the amount of food used per 100 men per month aboard a large carrier (*Essex* class), a modern battleship (*Iowa* class) and at a shore station.

An estimate of the nutritive value of these foods, using the tables of the National Research Council, gives the values in Table 3. Such estimates are inaccurate, as shown by direct analyses (4). The values for calories should be about 3000 while those for fats and protein vary from 100 to 130 gm. Such

TABLE 2

Pounds issued per 100 men

FOOD ITEM	BATTLESHIP (30 DAYS)	AIRCRAFT CARRIER (31 DAYS)	SHORE STATION (30 DAYS)
	lb.	*lb.*	*lb.*
Meats, fish and poultry			
Bacon, fresh	37.4	195.0	128.4
Bacon, canned	15.8		81.9
Beef tongue, canned	6.6	2.8	
Beef roast, canned	8.9		3.6
Beef, dried, canned		15.0	
Beef, fresh	765.7	846.0	446.1
Beef, liver	36.2		73.2
Beef and gravy, canned	.1		
Beef hash, canned	7.2		
Beef, corned, canned	55.7	31.0	28.2
Chicken, undrawn	212.3	279.0	381.9
Chicken, canned	17.7		
Fish	53.2	99.0	15.6
Frankfurters	42.1	47.0	
Ham		298.0	249.0
Ham, chopped, canned	.3		
Ham, smoked, bulk	73.6		
Lamb	59.4	42.0	464.4
Liver, calves		34.0	
Luncheon meat, canned	101.3	82.0	
Liverwurst		25.0	
Liver sausage			11.1
Luncheon meat, fresh	12.8		
Pork, salt	.2	2.9	10.5
Pork, fresh	249.5	180.0	132.9
Pork and gravy, canned	8.6		
Pork tongue, canned	.3		
Pork, corned, canned	28.9		
Pork, sausage, canned	17.5		
Pork, sausage	42.5	112.0	143.4
Salmon, canned	90.1	21.0	14.7
Sausage, Vienna, canned	60.2		
Salami	15.8	18.0	4.5
Stew, meat and vegetable, canned	5.8		
Tuna fish, canned	7.0		
Turkey, canned	19.0		
Turkey, fresh	120.5		
Veal, fresh	114.7	254.0	296.7
Boston butts	0.0	0.0	153.0
Bologna	59.1	21.0	45.0
Eggs			
Eggs, fresh	317.8	373.5	401.4
Eggs, dried	142.9	15.0	
Fruits, other than citrus			
Fruit cocktail	43.5	5.4	
Peaches, fresh			104.7
Peaches, canned	115.3	108.0	82.8
Pears, canned	51.9	37.0	69.6
Pineapple, canned	92.1	94.0	177.6
Plums			59.7
Strawberries, fresh frozen		43.0	
Fruits, dried			
Apple sauce, dried	.9		
Apricots			1.2

TABLE 2—*Continued*

FOOD ITEM	BATTLESHIP (30 DAYS)	AIRCRAFT CARRIER (31 DAYS)	SHORE STATION (30 DAYS)
	lb.	*lb.*	*lb.*
Fruits, dried—Continued			
Cranberries	.7		
Peaches			14.7
Prunes			42.6
Raisins	49.8	22.0	14.4
Beverages			
Cocoa	10.6	3.6	3.0
Coffee beans	332.5	182.0	
Coffee, ground			90.3
Tea	65.6	9.2	7.8
Miscellaneous			
Assorted beverage base	12.8	5.4	
Baking powder	6.5	13.0	
Baking soda	2.2	2.1	
Chili powder		.4	
Chili sauce		17.0	
Horse-radish		6.4	
Hot sauce		16.0	
Lemon flavoring	.2		
Maple extract		.7	
Maple flavor tablets		13.0	
Meringue whip powder		1.2	
Mincemeat	8.3		
Mustard, prepared	2.9	4.6	.6
Mustard, dry	.9	.4	
Olives	2.0	1.7	
Onion salt		2.9	
Pepper, black	3.2	1.4	2.4
Pepper, red	.2		
Tomatoes			
Tomatoes, canned	454.6	343.0	338.1
Tomatoes, catsup	21.5	3.8	40.8
Tomatoes, fresh		34.0	172.5
Tomato juice	131.7	180.0	
Citrus fruits			
Grapefruit, canned	25.4	4.7	
Grapefruit, fresh	60.4	81.0	79.8
Grapefruit juice	48.9	21.0	1.8
Lemons, fresh	14.5	128.0	
Lemon powder	5.3	15.0	5.4
Limes		57.0	
Oranges, fresh	360.9	419.0	576.9
Orange juice, canned	13.9	8.4	90.9
Orange and grapefruit juice	18.7		
Potatoes			
Potatoes, fresh	1439.1	1963.0	1574.7
Potatoes, dehydrated	85.9	7.1	
Vegetables, other			
Beets, canned	68.7	61.0	53.7
Celery	86.1	111.0	132.0
Corn, canned	203.2	158.0	112.5
Corn, on cob			359.1
Onions, dry	56.7	92.0	234.0
Onions, dehydrated	1.4		
Turnips, dry	1.1		
Turnips	22.5	75.0	
Sauerkraut	51.6	40.0	67.8

TABLE 2—*Continued*

FOOD ITEM	BATTLESHIP (30 DAYS)	AIRCRAFT CARRIER (31 DAYS)	SHORE STATION (30 DAYS)
	lb.	*lb.*	*lb.*
Fruits, other than citrus			
Apple butter	22.5	68.0	1.8
Apples, canned	71.4	100.0	39.0
Apples, fresh	162.2	502.0	
Apple sauce	40.1	74.0	104.4
Bananas		11.0	
Blueberries, canned		21.0	
Cantaloupe			75.0
Cherries, canned	50.5	135.0	6.0
Apricots, canned	81.1	39.0	
Figs, canned	101.0	56.0	137.1
Milk and milk products			
Ice cream (from ice cream mix)		134.0	
Ice cream (commercial)		12.0	
Milk, dry, whole	176.8	60.0	
Milk, fresh		29.0	4407.0
Milk, evaporated	51.8	541.0	208.2
Cheese	34.5	9.0	39.6
Cheese, American loaf		49.0	
Fats			
Butter, fresh	174.8	149.0	143.1
Butter, canned	14.6		
Other fats			
Lard or substitutes	245.8	263.0	18.6
Mayonnaise	2.4	.6	
Salad oil	13.1	6.4	77.1
Grain products			
Assorted cereals	25.7	39.0	183.3
Apple sauce cake			39.3
Bread			636.6
Buns			25.8
Corn meal	28.4	15.0	19.5
Corn bread			59.4
Cornstarch	27.8	36.0	4.8
Crackers			130.8
Coffee cake			150.3
Cookies			121.5
Devil's food cake			169.2
Doughnuts			152.6
Flour, graham	23.6	9.0	
Flour, wheat	1723.6	1312.0	63.3
Flour, barley, etc	1.9	6.0	4.8
Hominy	29.2		
Loaf cake			46.8
Macaroni	19.2	43.0	14.7
Noodles			38.0
Maple rolls			10.0
Oats, rolled	16.2	32.0	15.9
Pound cake			48.0
Rice	65.1	57.0	78.0
Spaghetti	57.7		25.2
Sheet cake			73.2
Raisin Bath buns			49.5
Whole wheat meal cereal		2.9	
Yeast, fresh	17.7	58.0	
Yeast, dry	4.2		•

TABLE 2—*Concluded*

FOOD ITEM	BATTLESHIP (30 DAYS)	AIRCRAFT CARRIER (31 DAYS)	SHORE STATION (30 DAYS)
	lb.	*lb.*	*lb.*
Legumes, dry			
Baked beans, canned	11.3	38.0	
Beans, kidney	15.1	12.0	
Beans, Lima, dry	49.2	30.0	25.5
Beans, navy, dry	35.9	116	78
Peanut butter	30.1	2.1	
Peas, split, yellow	9.9		
Sugars, syrups			
Coca Cola syrup		4.9	
Gelatin dessert powders		15.0	
Jams	185.7	135.0	38.7
Marmalade		67.0	79.2
Sugar, brown	12.7	8.6	
Sugar, granulated	1012.0	987.0	424.2
Sugar, powdered	26.8	37.0	
Syrup		15.0	28.5
Vegetables, leafy, green and yellow			
Asparagus, canned	94.4	41.0	
Beans, string, fresh			138.0
Cabbage, fresh	249.1	265.0	126.6
Cabbage, dehydrated	6.3		
Carrots, canned	9.6	16.0	
Carrots, dehydrated	9.4		
Carrots, fresh	68.3	162.0	197.4
Lettuce		170.0	156.0
Peas, canned	257.1	196.0	222.6
Peppers		12.0	
Pumpkin, canned	2.7	10.0	
Spinach, canned	67.0	82.0	107.4
Squash			76.8
String beans, canned	224.8	151.0	68.4
Sweet potatoes, canned	86.1	52.0	2.1
Sweet potatoes, dehydrated	1.6		21.6
Miscellaneous			
Pickles, mustard		5.9	
Pickles, sour	16.0	2.3	13.2
Pickles, dill	12.7		
Salt	10.8		53.7
Soup mix, dehydrated	32.9		
Spices	49.0		
Vanilla flavor	2.2		
Vinegar	2.8		
Worcestershire sauce	4.1		

a table is useful chiefly for comparisons and to give approximate values for water-soluble vitamins.

FOOD STORAGE ABOARD SHIP

In addition to 12 compartments with capacities ranging from 800 to 4700 cu. ft., the modern carrier has three chilled compartments for meat. Each of these has a capacity of 2600 cu. ft. and is held at 15°F. Four additional cooled compartments at 32 to 40°F. are available for butter, eggs, fruits and vegetables. These four have a combined capacity of about 13,000 cu. ft.

In the tropics the temperature of the dry stores varies from 85 to 90°F.

PREPARATION OF FOOD ABOARD SHIP

The equipment aboard ship for the preparation of food has changed little during the last third of a century, except that electricity has replaced coal for heating stoves and ovens. This is shown by comparing the illustrations of equipment in use on American ships in 1914 with that found today (5).

The steam kettles (coppers) remain the most used equipment with the exception of the ovens in the bakery. On a modern carrier the mixing machines in the galley and in the bakery, respectively, also render much service. Ten electric stoves provide surfaces for frying. Coffee is made in a copper in the ancient manner.

TABLE 3

*Estimated nutrients per man per day**

	BATTLESHIP	CARRIER	SHORE STATION
Calories	4178	3878	3847
Protein (*gm.*)	121	116	141
Fat (*gm.*)	175	171	178
Carbohydrate (*gm.*)	504	470	419
Calcium (*mg.*)	844	803	1361
Phosphorus (*mg.*)	1832	1759	2247
Iron (*mg.*)	28	25	23
Vitamin A (*I.U.*)	12,000	10,000	10,000
Thiamin (*mg.*)	3.1	3.2	3.8
Riboflavin (*mg.*)	2.5	2.4	3.2
Niacin (*mg.*)	30	30	32
Ascorbic acid (*mg.*)	121	129	135

* Careful analytical studies have indicated that such estimates are much too high in protein, fat and calories while they are too low in calcium (4).

In the "spud locker" where vegetables are prepared, the equipment consists of two potato peelers, one chopper and one dicer. In the meat shop are the grinder and power saw with the usual meat block and butcher's tools.

During World War II, ice cream freezers and hardeners took their place as useful equipment. These are located in the Ship's Service space, quite separate from the main galley. Aboard the carrier the daily production and sale of ice cream amounted to about 180 gal. Much more could have been sold except for lack of capacity in the hardeners. The future may see frozen custards substituted for part of the ice cream in order to increase production of frozen desserts without the need for more hardeners.

The modern carrier is equipped with deep-fat fryers like those in galleys at shore stations. Missing, however, are the familiar pressure cookers. Genuine research is needed to determine methods and equipment for rendering pressure cooking more popular.

Not only is there need for much research upon all equipment used in large-scale cookery, but special study needs to be given to equipment adapted for the restricted space available on a modern ship.

SERVING THE FOOD

At the time this study of messing aboard a carrier was made, the total number of men fed was 3352. Of these, 352 ate family-style in the officers' mess, 137 were fed similarly in the mess for chief petty officers, 202 enlisted men ate outside their regular mess, while 2661 were fed cafeteria-style in the general mess. The average complement of the battleship was 2870, of whom 157 ate in the officers' mess.

The mess equipment provided for each enlisted man aboard ship is the same as that in use at shore stations, consisting of the now familiar six-compartment tray, soup bowl, cup, knife, fork, and spoon. The trays withstand rough treatment although some are destroyed as a result of being knocked against garbage cans. Whether or not these trays can be improved by a lighter color more resembling chinaware or by making them of transparent plastic is a problem of the future. Men undoubtedly associate good food with the chinaware of home and restaurant. The appeal of foods is partly related to these associations.

Men aboard a carrier are served from three steam tables. In order to reduce lost time an attempt is made to stagger groups assigned to each cafeteria line. Lines form on the hangar deck and extend down to the galley, two decks below. A similar system is used on a battleship.

Food service from conventional steam tables is satisfactory, but supplying coffee under modern congested conditions is difficult, especially aboard the carrier. In the case studied the ancient system of suspending coffee pots by means of wire hooks was adopted after other methods had failed. The suspended pot is not entirely satisfactory due to congestion. Such an arrangement, however, does compensate for rolling and listing as a result of rough water. On one such occasion, for instance, when coffee was being dispensed on a small table from a can with a spigot the whole table was turned over on the deck of the mess compartment.

The tables and benches for eating are the type in use for many years. These have folding legs so they can be stored on racks at night. In case the ship is overcrowded, this permits space for hammocks.

Modern warfare has modified the time of meals. Before the introduction of air warfare, meals could be regular except during actual battle periods. During the earlier part of the Japanese war, attacks were at dawn or dusk, and the time of serving breakfast and supper, of necessity, rather uncertain. When ships are not in battle areas they are constantly rehearsing in preparation for such attacks.

Irregular hours for meals with only cooks left in the galleys make cooking difficult. During certain periods ventilation may be cut off. Thus steaks may be on the menu for the noon meal but the cooking of these may have to be completed before call to general quarters at 10 o'clock if ventilation is to be cut off by the damage control officer. Furthermore, all men who assist in such work as peeling potatoes in the "spud locker" must desert the galley to serve at battle stations during general quarters.

In order to relieve bakers from work during battle periods, considerable study during the past two years at the Naval Medical Research Institute has been devoted to the storage of freshly baked products in frozen lockers. After a ship has been at sea for a few weeks there is adequate space in the meat rooms which are kept at a temperature of about 15°F. Doughnuts have kept in good condition for 2 to 6 months if frozen and stored shortly after frying. Such doughnuts keep especially well if some protein-rich product is substituted for part of the flour. Corn germ, wheat germ, brewers' yeast and soy flour have all been used for this purpose. Breads, muffins, and cakes can also be stored satisfactorily when frozen. Due to the ending of the war, this method of storing baked goods was not put into practice.

Cooks are usually divided into two watches. Each watch serves for 24 hr., starting at noon. Thus a cook is responsible for work during 24 hr. and is then free for a similar period. Even though on duty, a cook may get a night's sleep since work after supper may end at 7 or 8 and breakfast the next morning may not be started until 4 o'clock. However, even though a cook has worked most of the night he may not get to sleep during much of his day when off duty because he must be awake in the galley during general quarters, when battles, real or simulated, are in progress.

In spite of these difficulties, the quality of food served aboard ship is nearly equal to that of the better shore stations. Part of this quality is due to the baked goods. Bakers aboard the carrier served in two watches, like the cooks, with an extra crew baking bread all night long. The monotony of baking bread each night was avoided by exchanges of workers. Probably no items of the daily menu are more appreciated than the high quality bread made with 5 per cent dry milk (based on flour weight) and the pies, cakes and cookies. In general, if cooks help make menus more baked goods are included; if the bakers make them, more puddings produced by the cooks are included.

Menus aboard ship, like those at some shore stations, are made by a commissary steward who has worked his way up from the rating of cook or baker. These menus are approved by several officers, including the captain of the ship, before they are used. It is customary for the officer of the deck to sample the food for each meal. Even the medical officer may have a hand in the menus since he may fear food poisoning and forbid such items as custards.

SPECIAL PROBLEMS IN MESSING

Many of the problems aboard ship depend upon our national policies. Much of the equipment for

such purposes needs research so that it may be better adapted for conditions aboard ships. Progress in the improvement of large-scale equipment generally seems very slow in comparison with that in other fields. Special research should be devoted to pressure cookers. These are rapid, and useful in vitamin conservation. Some shore stations make extensive use of them; others have discarded them. The cooks aboard the carrier did not seem to miss this equipment.

Many pieces of less important equipment also need improvement. Thus, six pies on a flat pan had to be carried up a narrow congested passageway to the serving tables. Special equipment would help in such work.

Conveyor belts, which have been used successfully in a few cases for the movement of food from the kitchen into the mess hall and for the movement of food in hospitals, might find more extensive use both ashore and afloat.

The disposal of wastes from a modern ship is important, as no trail of floating paper or garbage can be left on the surface. For this reason all garbage passes through a grinder and is then washed overboard. All paper is burned in an incinerator.

In addition to equipment, the difficulty of training cooks adequately during World War II has been a real problem. Better equipment and working conditions will undoubtedly attract better men for this work. In case a national system of compulsory military service is adopted, much attention needs to be given to cooks and bakers. Such training should prove a national benefit to the armed services in case of war and to restaurants in time of peace.

Finally, in addition to the problems of skilled labor and equipment, there are hundreds that arise in regard to foods employed. During World War II, the disastrous results of putting dehydrated foods into the hands of cooks, without furnishing adequate directions for use, are well known. Every package of food, like new equipment, should carry simple directions for storage and use.

The usefulness of dehydrated onions aboard ship never has been adequately appreciated. Nevertheless, the day may come when the familiar sight of a group of mess cooks peeling onions with weeping eyes, while seated around a steep tub in the "spud locker," will be forgotten. There are almost no instances in which dehydrated onions cannot replace the fresh satisfactorily in cookery.

Other products, such as dehydrated potatoes, could partly decrease the tonnage of fresh ones now used aboard ship, especially when it becomes possible to reduce the cost of the dried product. Three trial runs were made aboard the carrier to determine whether the average man could distinguish potato salad made from fresh in contrast to dehydrated potatoes. No evidence was found that the difference was recognized. Cooks, however, must be taught methods of preparing dehydrated foods on a large scale aboard ship. In the case of potatoes, there was a tendency to overcook in the coppers since the fact that potatoes stay hot for 2 or more hours after the water is drained from them was overlooked. Under such conditions cooking continues and the potatoes become too soft for good salad.

Among the important and unsolved problems aboard ship is the provision of an adequate supply of fresh milk for drinking. For the modern youth this is the foodstuff which, when unavailable, is missed the most. Considerable milk, of course, is consumed, since the dried product is used in bread. Evaporated milk is provided for coffee; reconstituted milk, for breakfast food.

Aboard the carrier a simple tank holding about 50 gal. and provided with a stirrer was used for reconstituting whole dry milk. The mixing was done in space near the galley, and the milk run into standard milk cans and carried a considerable distance aft and down two decks into cold storage. Early the next morning it was carried back to the galley for serving. At first, considerable trouble arose from souring due to delay in getting the mixed milk into cold storage and to the failure of the untrained man in charge of the mixing to wash his equipment with hypochlorite. No more difficulty arose after these minor problems were solved.

The problem of providing milk for drinking that tastes like that served fresh at home remains unsolved. Many partial solutions have been offered but thus far these involve the use of elaborate equipment which is not likely to function well in the hands of those who are obliged to operate it. For this reason, only a few of the so-called "mechanical cows" have been placed aboard hospital ships for the purpose of reconstituting milk from skim milk powder and butter.

SUMMARY

These observations made chiefly aboard a modern carrier indicate that the food used today compares favorably in variety and nutritive value with that served ashore. Many unsolved problems remain, however. These fall into three general classes; the improvement in large-scale equipment; the training of cooks and bakers; and the introduction of special foodstuffs such as dehydrated eggs, potatoes, and onions. Among the unsolved problems is the provision of milk for drinking that tastes like the fresh product.

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Editorial

THE FOOD AND DRUG ADMINISTRATION

The campaign to preserve the purity and truthful labeling of foods, drugs, and cosmetics during the wartime disruptions of production, transportation, and storage, featured the 1945 fiscal year report of the Food and Drug Administration, by Dr. Paul B. Dunbar, Commissioner of Food and Drugs. Over 71 per cent of the food seizures involved products receiving inadequate protection from rodents, insects, and decomposition. While some of this food was processed in insanitary plants, much of it reached its destination in clean, sound condition, and became contaminated during storage. "Honest food supplies were not undermined by debased products, despite numerous attempts by a minority fringe of food producers to cheat the consumer. At the end of a 4-year war, the purchaser can still depend upon the label as an index to the contents of a food package."

"The American food and drug industries have done a notable job in the face of serious obstacles," states the report. "The majority of the manufacturers were accustomed to producing clean, wholesome articles, honestly labeled. When the war began, they were called upon by the Government to increase production of essential items far beyond normal capacities under the most unfavorable conditions they had ever experienced. They overcame, in large measure, the handicaps created by loss of trained personnel, by deterioration of irreplaceable equipment, by shortages of raw materials, and by inadequate storage and shipping facilities."

The Food and Drug Administration joins in local investigations of food-poisoning outbreaks, so that any foods involved which come under interstate distribution may be removed from consumer channels before further illnesses result. As in the past, most of the 1945 outbreaks were traced to the improper handling of food materials in the kitchen in which they were prepared for local consumption.

"An intensified effort to prevent the inexcusable loss of food through filth and decomposition has characterized the regulatory work in 1945," according to the report. "The breakdown of normal sanitary controls in food-manufacturing plants, and especially in warehouses, is the most serious feature of the domestic food supply. The American food industry, as a whole, has taken the position that in spite of war the consumer is entitled to pure, clean, uncontaminated food. With the wartime production problems confronting responsible members of the industry, however, and with the fringe of careless or indifferent manufacturers who pull down the high average of the industry as a whole, a large amount of regulatory work must be devoted to filth and decomposition."

"Both the public and the manufacturers' interests demand pure and honestly labeled products in war as well as in peace," states the report. There are a few food manufacturers, however, who always try to profit illegally at the expense of consumers. Their perverted ingenuity found outlet during the year in mineral oil substituted for food oils, saccharin in beverages, ground cocoa shells in chocolate products, soup mixes and noodles deficient in labeled ingredients, candy containing prepared cereals as a substitute for nuts and cocoanut, and maple and cane syrups containing little of the desirable ingredients listed on the labels.

Another type of economic cheating which received concentrated attention was the shipment of foods below legal standards. Since most of the standardized foods were rationed and important in the consumer diet, enforcement of the standards was imperative. When the violation could be corrected by reprocessing, as in the case of low-fat butter from which the excess water could be removed, or by relabeling, as in the case of canned peas which could be marked "substandard," the seized products were later returned to consumer channels. Short weight and deceptively packaged foods were also seized and distribution was permitted only after the consumer deception had been corrected.

With regard to drugs, proprietary preparations seized on charges of false and misleading claims included tonics and products containing vitamins and minerals, promoted as assured sources of "vim and vigor"; weight reducers, the effect of which depended on diet or laxatives; laxatives and medicines for

digestive disorders, arthritis, and rheumatism; a natural unrefined petroleum oil bearing claims of efficacy in the treatment of many skin disorders; and numerous sporadic shipments involving only a few seizures each.

The wisdom of patronizing well-established sources of food distribution and production, and commercial organizations which have built up a reputation over many years on the basis of nationally advertised brand names, is again confirmed, judged by this report. No food manufacturer or producer who has invested large sums in promoting brand names can afford to jeopardize his reputation by lowering the standard of his advertised products for temporary profit.

AUSTRALIAN ACTIVITIES IN THE FIELD OF HUMAN NUTRITION

A review of Australian activities in the field of human nutrition, by Dr. F. W. Clements, Australian Institute of Anatomy, Canberra, A.C.T., appeared as a supplement to the *Australian Journal of Science*,[1] June 21, 1945. The Australian Government in 1936 set up an Advisory Council on Nutrition whose function it was to advise the government upon "two principal aspects of this very wide question: (a) the present state of nutrition of the Australian people; and (b) the nature of any evidence that the Australian people are in any degree undernourished, or that their diet is improperly balanced or improperly prepared."

A survey of family dietaries was obtained by asking housewives to record in a specially provided booklet all food which entered the household in a period of 28 consecutive days. The final analysis was carried out on 2565 of such records. The evidence collected revealed that, on the basis of food purchased, the Australian people on the whole were well fed, but that a minority was not obtaining, and might not be in a position to obtain, enough food. Within the limits of the survey, this minority was stated to be represented by some 6 per cent of the dietaries recorded. In the opinion of the Council, the main cause of malnutrition was faulty selection of diet—selection which was made necessary by poverty in some instances, but more often caused by ignorance. The Council made two further observations: "that there is much ignorance in the community as to the proper balance of food items; and that some people in both town and country are unable, for various reasons, to obtain the essential fresh foods."

Tables detailing the nutritive value of foodstuffs included in the dietary records of the householders cooperating in the survey were published in the *Fifth Report of the Advisory Council*.

In order to make a clinical investigation into the health and nutrition of children living in certain parts of inland Australia, a medical officer of the Commonwealth Department of Health was dispatched with an automobile unit consisting of a motor caravan, with sleeping quarters, small laboratory, and portable x-ray machine. The unit included such equipment as would make it possible to add to the recognized clinical tests such additional methods of examination as the x-ray, hemoglobin estimation, and the capillary resistance test for scurvy. In all, 4300 children were examined. The incidence of unsatisfactory nutrition—which was detected by both somatometric data and clinical appraisement—ranged from 13 to 23 per cent. There were signs of mild rickets in a small percentage of infants, and a number of older children bore the stigmata of rickets in infancy. About 4 per cent of children were found to be suffering from anemia. Two cases of frank scurvy were recorded.

The principal observation of the inland survey was that infants and children either could not, or did not, obtain enough of the foods richest in minerals and vitamins, such as fruit, vegetables, and milk. In many instances the diet was unsatisfactory because of excessive carbohydrate intake, including large amounts of cakes, biscuits, cookies, bread, jam, and sweets. In the metropolitan area of Sydney much the same incidence of malnutrition was reported as in the inland areas; here, however, the deficiencies were due to poverty and ignorance, as there was an ample supply of all foodstuffs at all times.

In its sixth and final report, presented in July 1938, the Advisory Council made certain recommendations, summarized as follows: the formation by the Commonwealth Department of Health of a division for the study of child growth, with especial reference to child diet; the extension under medical supervision and on a widespread geographical basis, of the kindergarten and nursery school, and the enlistment of the cooperation of the state health and education departments in a scheme of general education in diet and food hygiene as an essential part of the standard curriculum for all school children; the continuation of the Advisory Council on Nutrition, reconstituted as necessary; the appointment by all state governments of committees whose function should be to educate the public concerning proper dietetic and nutritional practice and the reliability of claims made on behalf of proprietary or other articles or systems of diet, and to advise generally in relation to nutritional and dietetic matters.

As a result of the fourth of these recommendations, the Advisory Council on Nutrition was reconstituted as the Nutrition Committee of the National Health and Medical Research Council, and held its first meeting in Canberra, in January 1939. Present membership of the committee includes prominent scientists and doctors, as well as one dietitian. The committee's work during the last six years can be

[1] Published by the Australian National Health and Medical Research Council, Science House, Sydney. Price 1s.

grouped under three main headings: directing research; advising upon nutrition education; advising the government concerning matters relating to food and nutrition. The committee has no executive authority, but acts in an advisory capacity to the National Health and Medical Research Council, and, through that body, to the commonwealth and state governments. The National Health and Medical Research Council makes funds available for the activities of the committee.

Investigations into several matters have been carried out under the general direction of the Nutrition Committee. In July 1940 when the British Ministry of Food announced its decision to fortify flour with synthetic vitamin B_1 and calcium, the Federal Council of Flour Millowners of Australia stated that it strongly supported the idea of a similar plan being adopted in Australia. As a result, the Nutrition Committee urged that the National Health and Medical Research Council determine whether the diet of the Australian population was even partially deficient in vitamin B_1, or that any conditions of ill health due to vitamin B_1 deficiency existed among the Australian people. As a result of these investigations, which showed that the average vitamin B_1 content of Australian flours compared very favorably with that of English and American flours, the committee decided not to recommend any alteration in milling procedure in Australia.

To fill the need for a book on nutrition for the lay public, members of the committee prepared and published *Diet and Nutrition for the Australian People*.[2] During the war the government sought the advice of the committee on each occasion when the rationing of a foodstuff was being introduced. When information collected by its members so indicated, the committee took the initiative and made recommendations direct to the government regarding the distribution of food.

Another advisory group, the Food Rationing (Special Diets) Committee of the National Health and Medical Research Council, was established in July 1943 to advise the government in providing additional supplies of rationed foods for persons suffering from certain diseases.

State committees have also been established, the main functions of which are: to advise the state governments on matters relating to food and nutrition; to prepare detailed information on food and nutrition; to collect data relative to food distribution; and to establish centers through which information can readily be disseminated.

Other agencies which carry out nutrition activities are: the Commonwealth Department of Health, responsible for six preschool child centers in Australia, the Lady Gowrie Child Centers, and a research unit at the Australian Institute of Anatomy (a branch of the Commonwealth Department of Health); the Commonwealth Department of Labour and National Service, one of whose interests is improving the diets of industrial workers; universities and other research institutions, including industrial research laboratories; the Council for Scientific and Industrial Research; and the Australian Red Cross Society.

In summary it is stated that gross nutritional deficiency diseases in Australia are practically unknown, although minor departures from normal health due to inadequate diets undoubtedly do occur. Compared with that of many other countries, the standard of living in Australia is high, and to a large extent uniform, for there are only very small groups of the extremely wealthy and the very poor. Australia produces its own requirements of the major food items and an exportable surplus of many of them. If the over-all consumption of any food item in Australia is inadequate, it is not because insufficient food is imported (due to national poverty as is the case in some countries), but because the desirable amount is not consumed by all families. According to the report, the absence in Australia of personnel trained in nutrition has been due almost entirely to the fact that no department of home economics exists at any Australian university. An extensive list of references (182) on nutrition and allied subjects, all of which appeared with but one or two exceptions in Australian and New South Wales journals, is included in the supplement.

[2] Sydney: Angus and Robertson, 1941.

Current Comment

DIETITIANS AND THE VETERANS ADMINISTRATION

GRACE BULMAN

Acting Director Dietetic Service, Veterans Administration, Washington

As plans for the reorganization of the Veterans Administration develop in answer to the increasing responsibilities in the care of veterans, dietitians everywhere are expressing a keen interest in the changes that will have a bearing on their part in the medical program.

They will, no doubt, be particularly interested to know that a Dietetic Service was established recently as one of the professional services under the office of the Acting Surgeon General where the policies to be followed in the care of veterans will be determined; and that Public Law No. 293, 79th Congress, signed by the President on January 3, 1946, abolished the Medical Service as it then existed under law, and established a Department of Medicine and Surgery under a Chief Medical Director. This law provides legislative authority for the Administrator of

Veterans Affairs to prescribe the functions necessary for complete medical and hospital service to veterans; to employ doctors, dentists, nurses, and the chiefs of the dietetic and other services in the auxiliary group; and to appoint additional personnel on a temporary basis upon the recommendation of the Chief Medical Director without regard to the classification, rules and regulations governing federal employees under the Classification Act of 1923, as amended.

The Administrator is also authorized to establish technical or scientific requirements for professional and subprofessional personnel, and to organize educational programs for various Veterans Administration groups under government grants for tuition, transportation, and educational fees consistent with available appropriations.

All employees of the Department of Medicine and Surgery will be subject to the provisions of and entitled to the benefits under the Civil Service Retirement Act of May 22, 1920, as amended, although doctors, dentists, nurses, and the chiefs of the auxiliary services will not be civil service employees.

Except for the Director of the Dietetic Service in Washington, and such other dietitians as may be given temporary appointments, all Veterans Administration dietitians will remain under civil service. Until such time as standards of eligibility for appointment are determined by the Administration, dietitians will be qualified under civil service requirements as now defined.

No change in the professional status or present salary scale is contemplated. In July 1945, Veterans Administration dietitians were reclassified from a subprofessional to a professional grade and the entrance salary was raised to a minimum of $2,320 a year for a 40-hour work week. Salaries for dietitians in this organization now compare favorably with most, and exceed some that are available in nonfederal institutions.

Initial appointments to the Department of Medicine and Surgery will include those dietitians now on duty with the Veterans Administration, who will continue in their present civil service status upon certification of satisfactory service by the manager of the hospital, home, or center where they are employed.

Subsequent appointments of dietitians will be made, as before, upon certification by the United States Civil Service Commission. Managers of Veterans Administration Hospitals recently have been authorized to recruit and appoint dietitians, locally, and certification in such cases will be obtained from the Regional Offices of the United States Civil Service Commission.

Prior to passage of Public Law No. 293, General Omar N. Bradley, Administrator of Veterans Affairs, instigated drastic plans for streamlining the functions of the Veterans Administration for rapid and efficient service to veterans, under a general reorganization that will decentralize all functions, leaving only policy making and top administration in Washington.

Decentralization will be accomplished through Branch Offices to be established in each of the thirteen Civil Service Districts in the United States. Headed by Deputy Administrators, Branch Offices will be staffed with representatives of the various departments of the Veterans Administration and each Branch Office will operate as a miniature Central Office.

When completed, each Branch Office staff will include a Chief of the Dietetic Division, an Assistant Chief, and a Secretary. The Dietetic Division will be responsible for the direction of the dietetic service in the hospitals within the geographic region covered by the Branch Office.

The staffing and opening of Branch Offices will be accomplished on a progressive basis over a period of months. Dietitians wishing to apply for appointment with the Veterans Administration are requested to direct their inquiries to the Director of the Dietetic Service at Washington, D. C., or to the Manager of the nearest Veterans Administration Hospital. No contacts should be made at Branch Offices until announcement of their official opening is carried in the local press.

It is expected that Veterans Administration dietitians in every hospital will receive a great deal of help from the Branch Offices when these are functioning. Eventually, orientation courses for dietitians entering the service, and refresher courses for those within the service will be conducted under the supervision of these Branch Offices. Educational programs for student dietitians and also for cooks are already in progress in designated hospitals.

Approximately twenty-four years ago certain hospitals that were operating under the United States Public Health Service were transferred to what was then called the Veterans Bureau—an agency created for the purpose of carrying out the laws providing medical care and treatment for ex-servicemen and women—and became the nucleus from which the present hospital program of the Veterans Administration was developed.

From the beginning, dietetics has been of major importance in the medical treatment of veterans. Established on a par with the finest dietetic service in the best civilian hospitals, the feeding of patients and personnel in Veterans Administration Hospitals has been conducted by qualified dietitians who are responsible to the Chief Medical Officer for the efficient operation of their departments. In turn, all dietary employees are accountable to the dietitian for the satisfactory performance of their duties.

Thus dietitians carry the full responsibility for the food service in these hospitals—a load which, with the expanding patient population to include World

War II veterans, requires the services of the best administrative dietitians in the country.

The acquisition of additional hospitals for veterans necessitates wide distribution of experienced Veterans Administration dietitians, which, in turn, creates a demand for more personnel, if those who have sacrificed themselves that we may be free are to receive proper care, treatment and feeding.

In the years immediately following World War I, many dietitians returned from the base hospitals of the American Expeditionary Forces and continued their service to veterans, first in United States Public Health Service hospitals, and afterward in hospitals under the Veterans Bureau.

History repeats itself and dietitians are again returning from overseas to positions in Veterans Administration Hospitals where increasing numbers are needed to maintain high standards of food service for veterans.

OBJECTIVES FOR TEACHING DIET THERAPY IN COLLEGE COURSES[1]

Many questions have been asked concerning what is required—how to teach, what text to use and what to cover—in the course in Nutrition in Disease for college students. This course is required by the American Dietetic Association for entrance to approved clinic and hospital courses in order to provide a background for graduate training. Therefore it is important to focus attention upon the objectives to be attained.

These objectives, as given below, are an extension of preliminary aims in foods and nutrition set up in a panel discussion by a committee of the Professional Education Section at the annual meeting of the Association in 1944. It seemed wise to confine the 1944–45 project to the teaching of diet therapy, the area in which the inquiries made were concentrated. The committee was composed of representatives from colleges and hospitals and the objectives listed represent what both groups believed could be accomplished in the college classwork. Several groups and individuals worked separately, first constructing objectives, then revising in the light of other opinions, and finally reviewing the set of objectives. It was felt that a suggested course outline would be too rigid and would become out of date too quickly. On the other hand, the colleges may use these objectives as a guide in evaluating not only the course in Diet Therapy but also several others which constitute a background of information for the study of diet therapy.

It is hoped that these objectives will be of material aid in setting up courses and evaluating others already organized. The cooperative work of those who train and those who eventually employ college students, should give these four areas of objectives, which are listed in outline form below, a sound foundation.

OBJECTIVES

1. *Appreciation:*

(a) of the need for having the normal dietary pattern constitute the basis upon which modifications for pathological conditions are planned;
(b) of the factors, including physiological and psychological, that determine the need for dietary modification;
(c) of the factors, including sociological, religious, economic, racial, etc., that influence the manner of fulfilling the prescribed modification;
(d) of the relationship of the associated subjects of bacteriology, chemistry, physiology, food preparation and service, to treatment of disease by diet;
(e) of the necessity of being currently informed of advances in the field of diet therapy;
(f) of the educational principles involved in teaching patients, student nurses, and others, dietary practices used in the treatment of disease;
(g) of the importance of a diet history of the patient;
(h) of the fact that there are many satisfactory food routines for the treatment of the same disorders, and that these vary among physicians and hospitals, which makes it important to know that all successful routines are based on sound principles of nutrition and an understanding of the basic functions involved;
(i) of the importance of planning menus that will be attractive in color, flavor, and appearance;
(j) of the fact that illness and the anxiety, enforced inactivity, and other factors that accompany it, influence the attitude toward, and consequently the appetite for food;
(k) of the duties and responsibilities of the therapeutic dietitian.

2. *Knowledge:*

(a) of the normal dietary pattern and modifications of such factors as consistency, caloric value, and nutritive content to meet the need of pathological conditions;
(b) of the principles of chemistry and physiology underlying body functions and how these functions may be altered in disease;

[1] Report of Project 6, Professional Education Section, with introductory notes by Dr. Helen A. Hunscher, Chairman of the Section at the time the project was undertaken. The personnel of the committee was as follows: Marjorie Essen, Rosemary Lodde, Dorothea F. Turner, Dr. E. Neige Todhunter, Margaret Fincke, Sister James Agnes, Diana Ballin Abbott, Marjorie Sims, Catherine Sander, Jane Landy, Dr. Margaret Ohlson, and Dr. Eva Donelson, Chairman.

(c) of the basic structure of the body and changes due to disease;
(d) of the possible procedures for planning and calculating quantitative and qualitative diets;
(e) of the application of principles of food preparation to the simplified cookery for the sick so that the food is palatable, attractive, and retains maximum food value;
(f) of those pathological conditions requiring special diet therapy and the general types of therapeutic diets in use;
(g) of essential terminology of diet in relation to disease;
(h) of social, economic, racial, religious, psychological, and other factors which affect individual food habits;
(i) of the sources of information in the field;
(j) of the trend of research in the field of diet therapy.

3. *Thinking:*

(a) ability to relate the fundamentals of normal dietary requirements, including nutritive content and appearance, to the planning of therapeutic diets;
(b) ability to correlate the theoretical principles of related subjects—bacteriology, chemistry, physiology, etc.—with the practices of diet therapy;
(c) ability to make allowances for the influence of social, racial, religious, and economic factors upon the food habits of individuals requiring special diet care;
(d) ability to apply information acquired from the diet history of the patient;
(e) ability to interpret scientific references, data, terminology, etc., clearly and effectively;
(f) ability to make use of the differences in composition of foods in planning adequate, attractive, therapeutic diets.

4. *Skills:*

(a) ability to modify the normal diet for disease conditions and to interpret the principles underlying such modifications;
(b) ability to use tables of food composition in rapidly and accurately assessing the nutritive value of the diet;
(c) ability to perform arithmetical calculations;
(d) ability to estimate the adequacy of approximated diets without recourse to calculation;
(e) ability to interpret a diet order correctly and then to plan and serve attractive meals;
(f) ability to record specific diet history of patient;
(g) ability to apply diet history information in planning diet for patient;
(h) ability to interpret scientific data.

DIETARY EXPERIENCE FOR THE STUDENT NURSE

AILEEN MERWIN

A major problem in the teaching of Nutrition and Dietetics to the student nurse is the organization and execution of schedules for the nurse's dietary experience.

In planning such schedules we must think primarily of helping the nurse to apply those principles of Nutrition and Diet Therapy which are essential in the skilful care of her patients. In the hospital situation we must also keep in mind that actual production, that is, the service of food to the hospital patient, is taking place simultaneously with the teaching of the student.

When we consider the student's dietary experience in this light, it is obvious that we have many opportunities for enlarging the student nurse's program in dietetics beyond the confines of the diet kitchen. Consideration of a broader dietary experience, therefore, has been the basis of the "Suggested Recommendations for Dietary Experience in the Student Nurse's Training Course," prepared by a subcommittee under the direction of Dr. Helen A. Hunscher, Chairman of the Professional Education Section, American Dietetic Association. Mimeographed copies of these recommendations are available at no charge from the American Dietetic Association, 620 N. Michigan Ave., Chicago 11. Mimeographed copies of the report of Project 3 of the Professional Education Section, completed with the cooperation of the Curriculum Committee, National League of Nursing Education, "Objectives for the Student Nurse's Dietetics Curriculum," are also available at the same address at 15 cents per copy.

Now that we have entered the postwar era in which thought is centered on the problems of reconversion, more than ever we need to reconsider how we can offer dietary experience to the student nurse which will enable her to fulfil the objectives of her work in Nutrition and Dietetics. Because these suggested objectives and experiences require more supervision of the student than has been customary in many teaching situations, suggestions have also been included for the simplification of supervision by means of better orientation and the use of a work manual for the student which should minimize the need for constant supervision and lessen the possibility of error.

These suggested recommendations were published in part by the National League of Nursing Education in a *Wartime Bulletin of Nursing Education*, June 1944, and have been discussed at conferences of the National League, the American Nurses Association, and the Clearing Bureau for Problems of State Board Nurse Examiners. At the request of the American Dietetic Association, the term "Diet Kitchen" has

Why Hundreds of Dietitians find these *QUANTITY RECIPES* Helpful

...BECAUSE THEY WERE DESIGNED SPECIFICALLY FOR INSTITUTIONAL USE
...BECAUSE EACH RECIPE MAKES 50 SERVINGS OF A GIVEN SIZE
...BECAUSE THEY ARE PRACTICAL FROM *EVERY* STANDPOINT

You, too, will appreciate the Pet Milk quantity recipes, "50 Recipes—Serving 50." These recipes were tested in actual use and approved by members of the St. Louis Dietetic Association. They are helpful to any dietitian who plans meals for large numbers of people... and helpful in quantity cookery classes.

These recipes demonstrate how, by using evaporated milk, you can save money and prepare dishes that are extra-rich in protective whole milk substances and in vitamin D.

"50 Recipes—Serving 50" are printed on 4 x 6 inch file cards and are available to you free. Order your set today by clipping the coupon below.

Home Economics Dept., PET MILK COMPANY
1450-c Arcade Bldg., St. Louis 1, Mo.

Please send me, free of charge, one set of "50 Recipes — Serving 50."

I plan meals for_____ (*name of institution*)

I teach_____ in_____ (*where?*)

*Name*_____ *Title*_____

*Street*_____ *City and State*_____

(Fill in completely. Offer limited to residents of Continental U. S.)

been changed to "Dietary Experience" by the bureau in their recommendations to state boards regarding rulings for minimum curriculum. Mrs. R. Louise McManus, Chairman of the League's Committee on Measurement and Educational Guidance, in commenting on this, writes: "I heartily approve of this change in terminology because it implies what is most important—the student's experience, rather than the place in which the experience takes place."

ELLEN PENNELL, HOME SERVICE CENTER DIRECTOR[1]

ELEANOR BAUR COMBS

Editorial Department, Pillsbury's Home Service Center, Minneapolis

Ellen Pennell, Director of Pillsbury's Home Service Center—Ann Pillsbury to the consumer food world—did not attain this position by accident.

"Missouri farm background, sound home economics training and varied business and consumer experince," she'd probably say, if you asked her to explain her climb to a top executive position in the field of business and home economics. To those of us who know her best, however, good fortune has come to her, not only because she has known how to sift rich nuggets from each experience, but because she has worked diligently in each position to turn in a worthy performance.

As director of a home service department for a large flour milling company, Miss Pennell finds herself reaching into the past again and again for assistance in this position that requires, in one person, the abilities of a food expert, a journalist, an administrator, and an authority on kitchen planning.

In order to direct the consumer food services for this company, she needed wide experience in the field of foods. This she has had. To her Kansas State College home economics training, she has added a wealth of practical experience. "Foods were fascinating to me even before I went to college," she'll tell you. "I was sold on being a home economist, but in college I simply didn't get an idea of the possibilities of a future in home economics until I had to put what I had learned into practice." This she did, first through experience in the field of university extension work, serving as Iowa's Nutrition Specialist, then as foods editor of two leading farm publications, and finally as director of the Home Service Department for the National Biscuit Company. It was from this position that she came to Pillsbury Mills, Inc., to direct their newly expanded Home Service Department.

The air seems fairly to snap and pop with food ideas when one is around Ellen Pennell. She must produce ideas for her company—new, exciting, consumer-appealing! This she has learned to do by drawing from past experiences and building new ideas from these. Here's how it's done. A new food idea for the fall advertising campaign is needed. She remembers that the old-time, yeast-raised coffee cake is fast, easy-to-make, and doesn't require kneading. That's why they used to have it at home—often. No kneading! Why not bread from the same pattern? This type of bread was tested, again and again in the test kitchen, and finally, with the stamp of approval of many other home economists and homemakers, a new, speedy, "No-Knead" breadmaking method was born.

Knowing foods—and Miss Pennell does, not only in the business and consumer world but in her own home as well—isn't the only prerequisite to this business of directing a home service department. She must be a journalist as well. Publications, news releases, recipe copy—these are vital to the life of a department. Her editorial magazine experience has stood her in good stead. Not only does she know the consumer, she knows what the consumer wants. She acted as a connecting link between the consumer and the business field when she edited advertising promotional material and food publications for a food products company with which she was formerly associated.

As administrator of a large home service department, one must keep one's work constantly well organized. Miss Pennell learned this fundamental (if she wasn't born with it) back in her Iowa Extension experience as a Home Demonstration Agent.

Scheduling meetings and detailed programs months in advance, setting up lively exhibits, enlisting help from local leaders who had no thought of pay other than the help they derived from association with their Home Agent—these and innumerable other experiences taught her the necessity of organizing her work for every moment of the day.

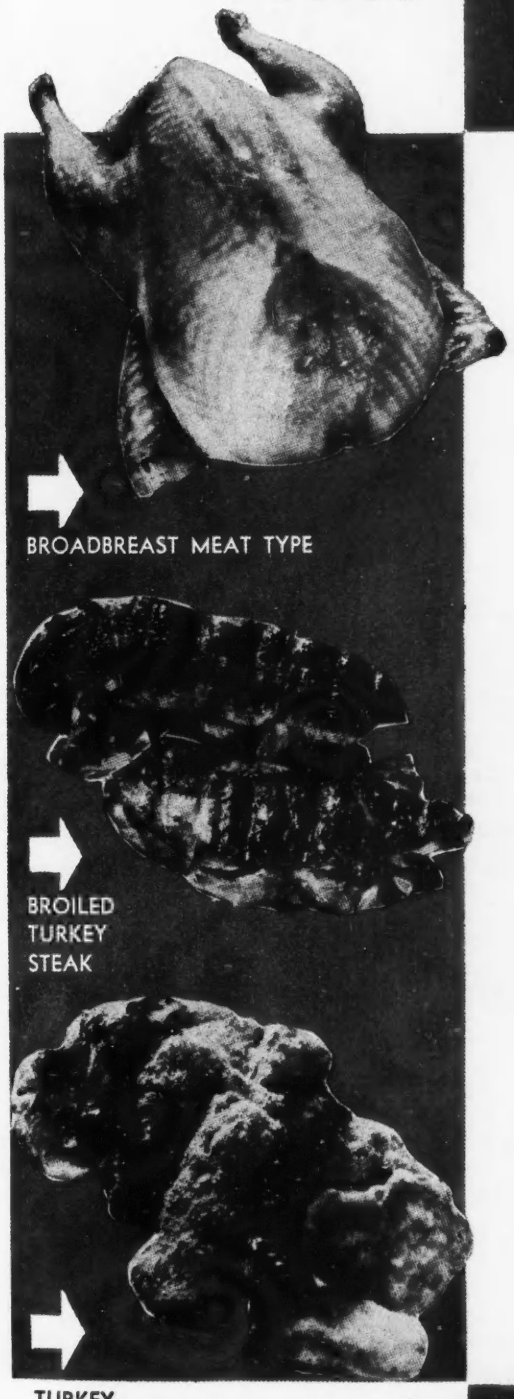
"Once you learn to handle a little three-ring circus, you know how to tackle a big one," she says.

Perhaps the weightiest responsibility Miss Pennell had to meet in her new position was the planning of the new Ann Pillsbury quarters. "Here is an attic," the Pillsbury executives said. "Can anything be done with it?"

Two previous testing kitchens had evolved under Miss Pennell's direction. This was bigger, however. This was the "Big Top" three-ring circus! This required *all* the talents of a true home economist. Her active mind went to work and the result was: A U-shaped kitchen with a step-saving "island" of stoves in the middle—gas and electric; a skylight for

[1] *Editor's Note:* Many of the top positions in commercial food and equipment service departments are held by members of the American Dietetic Association. In the belief that the readers of the JOURNAL will be interested in the experiences of those who have attained these positions, the Editor requested that this paper be written, as well as several others which, it is hoped, will appear from time to time in subsequent issues.

this Chicago hotel



Uses 900% More Turkey than in 1939

This is a story about Hotel Sherman, of Chicago. But the conclusions might apply to any hotel, restaurant, hospital, club or other institutional eating place in the nation.

In 1939 the Sherman "discovered" the new meat type, broad breasted turkey, which yields more and bigger slices of juicy breast, more pounds of finished meat of all kinds, less waste. Turkey sales at the Sherman jumped! Even before wartime meat shortages developed, sales had increased 500 per cent. Another 400 per cent increase has since been added.

If you could *look at their books,* you would see some amazing cost comparisons . . . all in favor of *broad breast turkeys.* For example, the yield of white meat in the broad breasts is 70 per cent, and drumsticks are so big (and so tender!) that one leg frequently can be cut into four full dinner portions! Comparisons with other meats are equally surprising . . . and almost invariably favorable to turkey. Result: lower net meat costs; lower handling costs.

There's a Reason

FOR PROOF, AND THE DETAILS,
Ask for Pamphlet
"Turkey Costs Less to Serve"

NATIONAL TURKEY FEDERATION
Mount Morris, Illinois

daylight testing of foods; steel cabinets, planned to the last minute detail; miles of counter space; the most modern equipment; and a testing bar right in the kitchen with shadow-box shelves above it for a collection of old-time baking items and knickknacks. (This last idea evolved after an old, blown-glass rolling pin that belonged to one of the Pillsbury executives was given to the department.)

The kitchen itself is a colorful, gay place—a place where the members of the staff like to work and company executives and consumers enjoy coming to watch.

Consumers test Ann Pillsbury foods in the testing bar

As the planning went on, the "attic" yielded more and more space to encompass a luxurious Georgian dining room, charming offices, dressing room, storage space, and a small auditorium.

If you were to visit Miss Pennell in these new quarters, which because of her planning have become one of the most attractive, yet functional, Home Service Centers in the country, you would say that this is the perfect setup for one of America's top home economists.

CHILD CARE CENTERS CONTRIBUTE TO AMERICA'S FUTURE

ALICE B. KLINE

Nutritionist, Connecticut Dairy and Food Council, Hartford, Conn.

What goes on in child care centers? Who supports them? How good is the food the children eat? How much care do they get? What kind of children are they? What are their parents like?

In an attempt to answer some of these questions, particularly concerning the food, a diet survey was made at a child care center in a large eastern industrial city. This center, supported by federal funds which are matched by an equal amount from the city treasury, is conducted under the auspices of the Board of Education and located in part of an old school building in a poor section of the city. The three large rooms, kitchen, and washroom used for

What makes babies tick?

Many a mother, faced with the intricate mechanism of a small, new human being, asks herself that question. Plus a lot of others!

It's the purpose of child health stations, in scores of progressive communities, to provide the answers. Their guidance extends from the cradle to kindergarten—covers everything from proper feeding to periodic physical examinations.

This work is without question one of modern medicine's brightest achievements. Given frequent and expert care, more well babies *stay* well; more sick babies survive. Significantly, mortality figures are now at the lowest mark.

Significantly, too, child health stations got their start as *milk* stations. Over half a century ago, it was seen how closely the disease-resistance of the nation's children is linked to the supply of *safe milk.*

It was then that a National Dairy company pioneered in the pasteurization of milk. Today, that same regard for public welfare continually prompts research work at National Dairy Laboratories to improve the keeping qualities and guard the flavorsome purity of milk—nature's most nearly perfect food. Through such efforts, milk now remains *fresh* and *wholesome* for days instead of hours.

Dedicated to the wider use and better understanding of dairy products as human food . . . as a base for the development of new products and materials . . . as a source of health and enduring progress on the farms and in the towns and cities of America.

Kraft Sealtest Breyers

NATIONAL DAIRY
PRODUCTS CORPORATION
AND AFFILIATED COMPANIES

the child care center are clean and airy. The teaching staff numbers five trained persons, including a director. There is a cook and an assistant cook.

The center is equipped to care for children. After a short playtime period, which begins with the early arrivals about 6:30 a.m., breakfast is served and the group subdivided into the 2 to 3-year-olds, the 4 to 5-year-olds, and those over 6 years of age. On the day I visited the center 22 children arrived for breakfast and were served cornflakes with milk, cocoa, and toast with margarine. There is no particular attention paid to the breakfaster. The cook brings in the child's food as soon as he has hung up his outer wraps, and he sits down and eats. When I asked the director later about feeding problems she said, "Oh, we have no poor eaters. Sometimes they don't eat very well when they first come, but they soon feel at home and then they eat." The children ate their breakfasts with neatness and dispatch, the neatness carrying over into help for the cook, as each child,

TABLE 1

*Child care center, diet survey, analysis of intake**

	CALORIES	PROTEIN	Ca	Fe	VIT. A.	VIT. B_1	VIT. C	RIBOFLAVIN	VIT. D
		gm.	*mg.*	*mg.*	*I.U.*	*mg.*	*mg.*	*mg.*	*I.U.*
Food intake, age 2–3 yr.									
Cornflakes, 70 gm	264	5.6	9.9	1.9					
Cocoa (with milk), 3 oz	90	3.3	111.0	0.3	192	.05		.2	
Toast, whole wheat, 1 slice	53	1.8	8.0	0.3		.04		.017	
Margarine, 1 tbsp	100	0.3	4.0	0.1	555				
Cod liver oil, 2 tsp	66				10,800				1,080
Omelet, $\frac{1}{3}$ cup	77	2.4	81.0	0.8	552	.05		.15	
Grapefruit juice, $\frac{1}{4}$ cup	25	0.2	6.0	0.1	12	.04	25		
Peas, canned, $\frac{1}{4}$ cup	22	1.5	5.0	0.45	335	.05	2		
Potatoes, mashed, $\frac{1}{4}$ cup	50	1.1	14.0	0.5	100	.03	2	.02	
Milk, $\frac{5}{6}$ cup	140	6.5	240.0	0.5	400	.10	4	.44	
Jello, fruit, $\frac{1}{4}$ cup	55	0.7	4.0	0.05	17	.02	8		
Soft custard, $\frac{1}{4}$ cup	65	2.7	63.0	0.4	235	.027		.14	
Peanut butter sandwich, $\frac{1}{4}$	75	2.8	10.0	0.36	54	.066		.04	
Total	1,082	28.9	555.9	5.76	13,292	.473	41	.967	1,080
Requirements, 2–3 yr.**	1,200	40.0	1,000.0	7.00	2,000	.600	35	.900	800†
Percentage of requirements met	90%	72%	56%	83%	614%	79%	117%	109%	135%
Additional intake, age 4–5 yr.									
Milk, $\frac{5}{6}$ cup	140	6.5	240.0	0.50	400	.100	4	.440	
Peanut butter sandwich, $\frac{1}{4}$	75	2.8	10.0	0.36	54	.066		.040	
Toast, $\frac{1}{4}$ slice	13	0.4	2.0	0.10		.10		.004	
Grand total	1,310	38.6	807.9	6.72	13,746	.649	45	1.451	1,080
Requirements, 4–6 yr.**	1,600	50.0	1,000.0	8.00	2,500	.800	50	1,200	800†
Percentage of requirements met	82%	77%	81%	84%	549%	81%	90%	121%	135%
Additional intake, age 6–8 yr.									
Omelet, $\frac{1}{6}$ cup	39	1.2	40.5	0.40	276	.025		.08	
Mashed potato, $\frac{1}{4}$ cup	50	1.1	14.0	0.50	100	.030	2	.02	
Jello, fruit, $\frac{1}{4}$ cup	55	0.7	4.0	0.05	17	.020	8		
Grand total	1,454	41.6	866.4	7.67	16,639	.724	60	1.551	1,080
Requirements, 7–9 yr.**	2,000	60.0	1,000.0	10.00	3,500	1.000	60	1.500	800†
Percentage of requirements met	72%	69%	87%	77%	475%	72%	100%	100%	135%

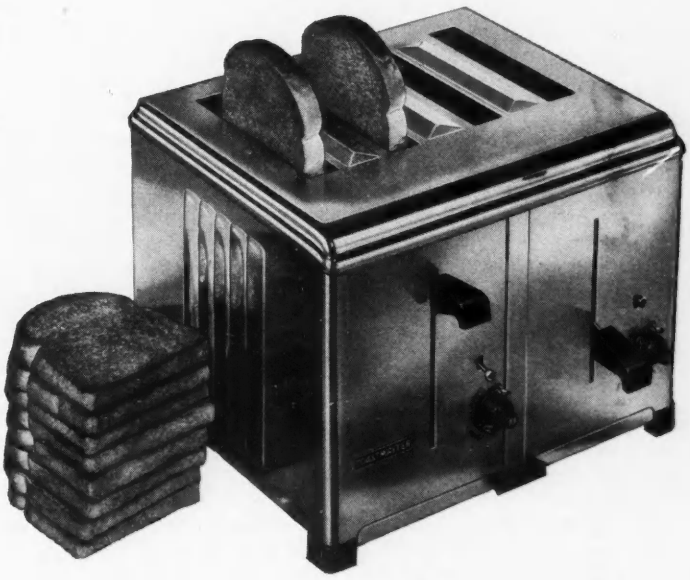
* Values from Taylor, C. M.: Food Values in Shares and Weights. The Macmillan Co., 1942.

** Committee on Foods and Nutrition, National Research Council.

† Upper limit of suggested 400–800 I.U.

"Hm . . . over 1,000 slices per hour . . . and less than 2 feet of counter space"

BIG toast capacity in SMALL space . . .



TOASTMASTER TOASTERS ARE BACK AGAIN!

Order *now* from your food service equipment dealer and get yours *sooner*. Big-capacity "Toastmaster" toasters that pop up 125 to 1,000 slices per hour (there's a model to suit every volume need) are in big demand. But we're making many more toasters than ever before so that you may get yours more quickly. When you do, you'll agree that the *one* best buy in toasters—the brand that bears the "Toastmaster"* trademark—was well worth waiting for. Order yours, today!

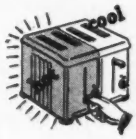
EVERY SLICE PERFECT!

Toast is never underdone or burned. Makes the same golden-brown toast that millions get at home.

COMPLETELY AUTOMATIC!

The instant toast is done to golden-brown perfection, slices pop up and the current clicks off!

ECONOMICAL!



Uses current only while toasting. And *only* in the slots at work. No current waste; no preheating.

FLEXIBILITY, TOO!

You can add units economically, one at a time, as you need more toast. All 8, 12, or 16-slice models are composed of 4-slice units.

*"TOASTMASTER" is a registered trademark of McGraw Electric Company. Copr. 1946, TOASTMASTER PRODUCTS DIVISION, McGraw Electric Company, Elgin, Ill.

TOASTMASTER Toast

The National Habit Wherever Folks Eat!

even the little 2-year-old, carried his dishes back to the kitchen when he had finished.

At 8:15 all the school-age children line up for cod liver oil. They take it down without a murmur, and then proceed to the kitchen where they get their fruit juice for the day. Then on to school. At 10 o'clock the little ones take their cod liver oil. One little fellow said, "I like cod liver oil *best* of anything." In the accompanying tabulation of the food values of the food intake for the day, it can easily be seen what the cod liver oil does to bring up the vitamin D intake for the day. It is interesting also to note that the vitamin A intake would be adequate without the inclusion of the cod liver oil, but it provides a margin of safety.

The menu for lunch was cheese omelet, peas, mashed potatoes, peanut butter sandwiches, fruit gelatin with soft custard, and milk. To forestall any criticism which might be made to the effect that the menu was planned to impress the visiting nutritionist, it may be said that several changes were made in the menu at the last minute because of the current food situation. One of these changes was the substitution of cheese omelet for salmon loaf as the salmon was unavailable.

The same menu is served to all of the children; the older ones simply eat larger servings of some of the foods. The youngest children are served first and then the middle group before the oldest ones. A midafternoon snack of milk and toast is served to all groups.

From Table 1 it can be seen that these children are receiving adequate amounts of food for the two meals, since breakfast and lunch usually provide 66 per cent of the N.R.C. recommended allowances. In only one instance does the percentage recorded fall below this figure, when the calcium intake by the 2 to 3-year group drops to 56 per cent of the day's requirement. The explanation for this probably lies in the fact that the youngest children are generally the newcomers and least likely to be well adjusted to eating in the nursery school group. Milk is offered these children regularly and the intake is increased as they continue to eat at the center.

The vitamin content of the meals is so ample that even though the evening meal which the child receives at home may be very poor, he probably will not suffer unduly from vitamin deficiencies. The parents are advised to serve the child a light supper, consisting of perhaps a sandwich and a glass of milk with some fruit or ice cream for dessert. This type of supper is suggested because it is easily prepared and would probably bring the percentages in all food groups well over the 100 per cent mark.

How do the parents feel about the nursery school? Most of them appreciate having their children well cared for. They pay from $3 to $4 a week, depending on the length of the day. For an 8-hour day, the charge is $3 and for a longer, 10-hour day it is $4. Many of the mothers have indicated that they wish to continue working, even in peacetime, which would seem to be evidence that they favor child care centers. At present 49 mothers, 3 of whom had always worked, and 37 of whom had never worked before, bring their children to the center. Three of the mothers are separated from their husbands, two are widows, and five are divorced. Since 20 fathers of the children are in the armed forces, and 19 are civilians, only 19 of the mothers have husbands to help with the children after a long day in the factory. Many of the children, however, have older brothers and sisters who go to the same school and who bring them in the morning and call for them in the afternoon.

It is interesting to note that several of the mothers are working with definite objectives in mind. One, for instance, is working for money to pay for an eye operation for her child. Meanwhile the child is being given the best possible care and good food and shows definite improvement since she came to the center last year.

We have seen with what success the children's bodies are nourished. In addition, they are taught self help, habits of cleanliness, cooperative play and work, as well as independence of thought. They have play periods at regular intervals, also rest periods. Their routines are so well established and so cheerfully anticipated that a child rarely cries after the adjustment period of the first few days. As a matter of fact, a visit to a child care center gives one a real "lift" and a restored faith in the future of democratic America.

TRENDS IN PURCHASING[1]

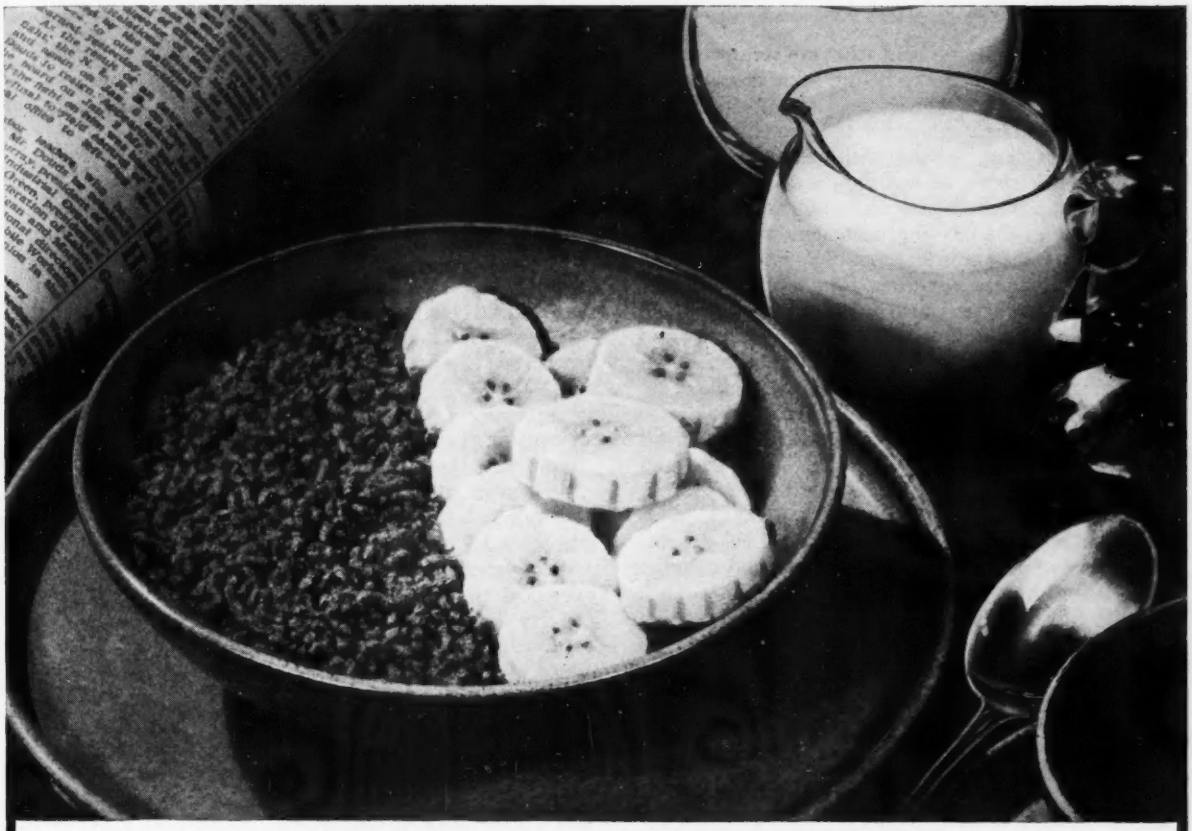
JACK LAURENCE

Purchasing Agent, Greenfield's Restaurants

My discussion is concerned with my work as purchasing agent for Greenfield's restaurants, consisting of two large restaurants in Detroit, and with the Mills' chain in Ohio, operating four large restaurants in Cleveland, Cincinnati and Columbus. In these restaurants we are serving approximately 35,000 people a day. As you can well appreciate, it takes tremendous amounts and varieties of foods to feed this many people daily.

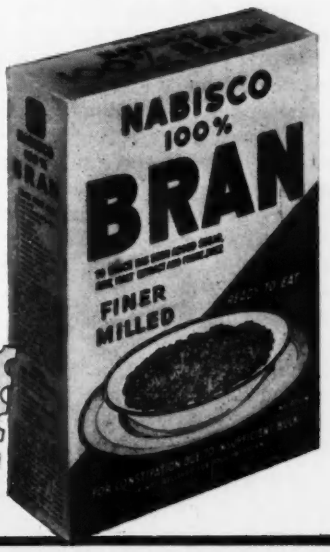
We combine our purchasing of quite a few items. Some are bought direct from the source, some through brokers, and many from day to day at local markets. Our future buying plans will not vary much from past and present practices, but through closer coordination and control we hope even more thoroughly to combine our buying efforts toward the best possible results.

[1] Presented before the Michigan Dietetic Association, November 15, 1945.



DIET-BULK that tastes good---furnishes Vitamin B_1, iron and phosphorus!

Nabisco 100% Bran is a *real find* when folks are troubled with constipation and need more diet-bulk. It's so good-to-eat as a cereal morning or evening. Delicious, too, mixed in muffins or cookies. And there's this big *extra factor:* Nabisco 100% Bran contains *3 important nutrients—Vitamin B_1, iron and phosphorus!* Finer-milled, bran particles in Nabisco 100% Bran are smaller, "easier" on the patient. Mild and gentle in action. In pound or half-pound packages at food stores.



finer-milled
TO MAKE BRAN PARTICLES SMALLER

One of the many fine foods baked by Nabisco
NAtional
BIScuit
COmpany
NABISCO

Prior to the war, we held what we term "cutting meetings." A few weeks before such meetings we wrote to the various canners asking them to submit samples of different varieties of canned vegetables and fruits of the new pack, with quotations. From our usage records we determined the quantity of each type of canned goods needed for the coming year. On the day of the meeting, managers and buyers of our various restaurants assembled and cut these samples, running a blind test to determine whether the quality and appearance of the new pack were up to our required standards, on the basis of quality and price. We then placed our yearly contracts.

During the war, of course, we were not able to do this. Although the war is over, it may be at least two years before we are in a position to make our choices more highly selective, due to material and labor shortages, price ceilings, weather conditions, and so on. For instance, we like New York tomatoes for counter service, because of the good color, firmness and low acidity. We also have found through experience that our customers like a New York tomato juice. The same is true of pumpkin, corn and many other fruits and vegetables. As soon as the packers are able to supply us, with regard to quantity and quality, we are ready to purchase these preferred items.

Today, the wholesaler has his problems, too, for it seems that the canners and growers are more interested in packaging for retail than in selling to wholesalers, because it is more profitable, and by such means they are able to keep their name in front of the public and thus assure future sales. One wholesale firm bought a carload of peaches this year, and when the car arrived at the plant the company paid $117 for labor alone to unpack each case of peaches to determine the size peach they were getting. They found seventeen different sizes, ranging from a 25 up to a 67-size peach. In the past, of course, an order would be placed for a car of sizes 30 to 35 peach halves, for example, and there would be no variation. So even the wholesaler cannot be certain of what he will receive. My advice, even so, is to patronize a well-known wholesale house, as the best possible means of assuring your source of supply.

When buying in large quantities, whenever possible we have found it more profitable to deal through brokers and even with the original source of supply. For instance, every spring and summer we take a few trips direct to the farms to determine the outlook of the coming berry and cherry crops, so that we may have a fair picture of what we may be able to buy, and the price. When the berries are ripe, we go to Benton Harbor, Michigan, and buy our year's supply direct from the farmers, through a broker. Thus we are assured of the type, quality, and freshness we prefer. We ship these berries by refrigerated truck to Cincinnati, Cleveland, Columbus, and Detroit. Upon arrival they are immediately placed in storage lockers and an hour after arrival they are frozen. We draw on these stores during the year as we need them for pies, cobblers, cakes and fresh fruit counter service.

We buy carload lots of frozen fruits, such as apples, apricots, peaches and cherries through brokers. At present we are using Colorado frozen apples, California peaches and apricots, and cherries from the Traverse City region. The apple crop around the country, as you probably know, is the worst it has been in 20 years; about the only state not too severely affected was the state of Washington, from which we are getting some Winesaps and Delicious apples.

Shortage of sugar, of course, is bound to affect the quality of the 1945 pack of canned fruit. We have found that the flavor of fruits packed in light syrup is not satisfactory.

Our meats and fresh vegetables are bought locally for each of our stores. Each morning the buyer reaches the market early in order to select items of the best quality and variety, on a more or less day-to-day basis.

We had always bought whole lambs and calves until, due to OPA regulations, we were required to buy only fabricated cuts. When we buy whole lambs, for instance, 50 lambs give us 100 legs for two meals, enough lamb racks and loins for two more, and the chucks are used for stews or patties. Also, we prefer a 45 to 50-lb. lamb which permits us to serve uniform chops.

I believe, however, that the future trend in meat packing will be toward the sale of fabricated cuts; that is, the meat packers will sell lamb chops cut 4 oz. each, packed 50 to the box, or veal chops cut 7 oz. and packed 50 to the box, or club tenderloin or sirloin steaks, or sausage patties. Any number of items, I believe, will be packed in this fashion, ready to be cooked.

Good beef is becoming very scarce, more so every day, due to many factors. The farmer is still getting over $18 a hundred ceiling price for cattle on the hoof, and the packer is allowed only 21½ cents dressed weight. So you can see that the profit margin is very small. The Government has been taking a considerable amount of all commercial, utility and cheaper cuts of beef, as well as bacon, ham, and pork loins. UNRRA, too, is planning on taking a goodly portion of our meat production in the future.

The market is heavily stocked at present with poultry. As to fowl, practically all of the large canners are buying 4 to 5-lb. fowl, as they find it the best size for soups and canning. During the war they bought a larger fowl, 6 to 7 lb., and sold the chicken fat, but now with little demand for chicken fat, they are back to 4 to 5-lb. fowl, which leaves very little for public consumption, unless you like a

Sign of Good Butter

Many leading manufacturers of highest quality butter are now telling homemakers by this imprint on the package that the flavor and quality of their butter is protected from creamery to dinner table by paraffined cartons.

Maintenance of butter quality in transit, at the store, and in delivery to the home is the important factor, but no small function of the paraffined carton is the preservation of flavor and freshness of butter after it is in the home refrigerator.

To keep its fine flavor and quality, butter should be placed back in the paraffined carton before returning it to the refrigerator. This should be remembered in times of shortage, when butter must be made to last longer and still remain free from icebox odors.

Why the Best Butter is Packaged in Paraffined Cartons—

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heavy fat hen. We like a 5-lb. hen, Plymouth Rock preferably, New York dressed.

I believe that in the near future all fowl will be eviscerated and dry-picked. We have found through many years of experience that eviscerated poultry is best for our needs. We bought some turkeys from Utah this year. In Utah the turkey growers succeeded in having a law passed whereby a turkey cannot be fed 18 hours before it is killed. This definitely clears the crop and the digestive tract and will make a difference of approximately 1 to 3 lb. per bird on weight. They are also killing under government supervision and grading, and all turkeys are hung on porches for 5 to 6 hours at normal outdoor temperature, then put into coolers and kept there until the internal temperature is 30 degrees, then chilled or frozen and shipped to destination. This prevents any spoilage in transit.

We buy our fish locally and daily, except for weekly standing orders on haddock, bought direct from Boston. In Ohio, we sell haddock the year round, every day. We also use much salmon, trout, whitefish and halibut when they are available and the price is right. In the future we plan to buy carloads of frozen salmon and halibut directly from the West Coast. Our costs will thus be considerably less.

Fish, packaged in portions, may be well suited for some types of business. We prefer the whole fish, as we utilize the scrap in fish loaves, croquettes and other dishes. Shrimp has been very scarce due to black market operations. As probably everyone knows, with a ceiling of 33 to 35 cents a pound, it has been selling illegally at from $1.00 to $1.25 per pound. The trend has been to cook and peel shrimp at the source, selling it ready for consumption, but we prefer green shrimp, preparing it in our own kitchens, because we feel our cleaning methods are preferable and the finished product is more pleasing.

Except for tomatoes and corn, we use only fresh or fresh frozen vegetables the year round and buy daily on the local market, featuring cauliflower, broccoli, Brussels sprouts, for instance, when in season.

Air cargo will be a prominent factor in the future transportation of certain vegetables, I believe. But I doubt if staple vegetables like head lettuce, carrots, green onions, and so on will ever be shipped in appreciable amounts by such means, as the cost is way out of line. I do feel that by next spring, for instance, the first California cantaloupes will be shipped by air, since the railway express charge has been $3.00 to $3.25 a box, and they can be shipped by air for practically the same amount, likewise other perishables such as avocados, persimmons, strawberries, and pineapple. Within the next five years, however, more may be shipped this way, due to reduced costs in air cargo operation.

To summarize, many factors will influence future purchasing trends—labor being one of the most important, along with shipping and supply and demand. More and more there seems to be a tendency toward individual serving packaging, with greater emphasis on retail than wholesale business. Air transport, too, will play an important part in food transportation and all these factors will be reflected in the buying field.

Appointments, Army Medical Department Dietitians

The following Medical Department Dietitians were appointed in the Army of the United States during the month of January 1946.

Boyden, Virginia A.: Rhode Island State Col.; Waltham Reg. Hosp., Mass.
Cook, Marion E.: Mary Washington Col., Va.; Ft. Bragg, N. C.
Finard, Miriam E. G. (WAC): Boston Univ., Mass.; McCloskey G. H., Texas.
Johnson, Eva M.: Utah State Agric. Col.; Hammond G. H., Calif.
Lanford, Annie R.: Winthrop Col.; Lawson G. H., Ga. and Ft. Jackson, S. C.
Lent, Jane E.: State Teachers Col., Pa.; Ft. Bragg.
Liebman, Selma: New York Univ.; Waltham Reg. Hosp.
Nygard, Helen M. S.: Woman's Col. of Univ. of N. C.; Ft. Bragg.
Storm, Eleanor: Univ. of New Hampshire; Ft. Bragg.

Promotions, Army Medical Department Dietitians

The following Medical Department Dietitians were promoted during the month of January 1946. They are on duty in Army Hospitals in this country and overseas.

First Lieutenants to Captains

Winslow, Ruby Z., R-613

Second Lieutenants to First Lieutenants

Anderson, Jean A., R-1267
Artz, Amelia E., R-2149
Black, Sara B., R-1396
Blaylock, Margaret M., R-1336
Cahill, Sallie J., R-1298
Collier, Martha A., R-1426
Currie, Esther E., R-1321
Farner, Lois E., R-1367
Ferdinand, Gelsie R., R-1200
Fleisher, Mary L., R-848
Fletcher, Mary V., R-2138
Gaasch, Vera D., R-2081
Goldstone, Edith, R-1349
Hemmer, Annaleen, R-2056
Hendrickson, Mary E., R-2184
Hildenbrand, Shirley A., R-2103
Huston, Nancy L., R-313
Johnston, Catherine M., R-2223
Kribbs, Elizabeth J., R-1407
Looney, Mary E., R-1258
Loudon, Dorothy H., R-1266
Mathewson, Eleanor H., R-26
McCaw, Elizabeth A., R-2040
McInerney, Mary T., R-2148
Moe, Margaret B., R-2177
Naylor, Anita E., R-2213
Park, Mary L., R-2087
Parker, Doris L., R-2204
Radke, Margaret E., R-2146
Shriber, Betty L., R-2117
Sontag, Elaine H., R-1225
Strain, Ruth G., R-2088
Taylor, Dorothy E., R-820
Upjohn, Elizabeth G., R-2013
Walker, Mabel A., R-2043
Wolf, Eleanor M., R-2251

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Army Medical Department Dietitians Separated From the Service[1]

The following dietitians have been separated under provisions of the Separation Policy established by the Surgeon General for Medical Department Dietitians.

Captains

Biggs, Margaret V., R-392, Barberville, Fla.
Brubaker, Ruth D., R-1105, Nelson, Nebr.
Bryde, Jean R., R-513, 724 Palm St., West Palm Beach, Fla.
Dayton, Ethel H., R-299, 421 Park St., Elgin, Ill.
Ehlert, Helen A., R-588, Minneapolis.
Faricy, Eleanor P., R-1053, 1883 St. Clair Ave., St. Paul, Minn.
Ford, Mary L., R-578, Dubuque, Iowa.
Hall, Merle M., R-453, Long Beach, Calif.
Keith, Allison D., R-259, San Bernadino, Calif.
Merrick, Maxine, R-53, Greene, Iowa.
Moehl, Adele M., R-91, Des Moines, Iowa.
Patten, Natalie, R-72, 6 Webster Court, Stoneham, Mass.
Richardson, Margaret V., R-109, 762 Lexington Ave., Atlanta, Ga.
Smith, Catherine C., R-73, Hazelton, Iowa.
Stevens, Harriett A., R-282, Iowa City, Iowa.
Summerville, Sara W., R-238, 2500 Oak St., Chattanooga, Tenn.
Timerman, Mary L., R-170, Alcazar Hotel, Cleveland Heights, Ohio.
VerMurlen, Cathryn R., R-629, Grand Haven, Mich.
Wiegand, Frances M., R-808, Millington, N. J.
Willis, Mildred T., R-794, Cottageville, S. C.
Wiseman, Jeannine C., R-275, 2039 N.W. 17 St., Oklahoma City, Okla.

First Lieutenants

Adams, Dorothy A. C., R-737, Kirkville, N. Y.
Agnich, Theresa M., R-948, Ely, Minn.
Allen, Florence L., R-2114, 1729 Jefferson St., Hollywood, Fla.
Allison, Doris M., R-1161, Salina, Kans.
Amidon, Harriet S., R-736, 1023 Broadway, Fargo, N. D.
Armstrong, Maxine, R-320, 908 Ella St., Beatrice, Nebr.
Ashley, Bertha B., R-1290, 2 S. Center St., Windsor Locks, Conn.
Bailey, Lucille Z., R-369, 515 N. Lake St., Madison, Wisc.
Barnes, Mary M., R-228, 1724 W. Evergreen St., Durant, Okla.
Baron, Marie E., R-977, 6142 S. Dorchester, Chicago.
Bass, Anne L., R-1350, 3051 Ocean Ave., Brooklyn 29, N. Y.
Beadle, Ruth A., R-564, 792 Santa Maria, Palo Alto, Calif.
Belmont, Evelyn E., R-1233, 30 Orchard St., Cos Cob, Conn.
Bielak, Irene C., R-431, Erie, Pa.
Bjerke, Helen M., R-246, 225 Russell Ave. So., Minneapolis.
Bowen, Mary A., R-168, Anderson, S. C.
Brock, Reba P., R-743, Colfax, Ind.
Brockbank, Patricia, R-939, 45 E. Beachwood Ave., Dayton, Ohio.
Brouard, Ruth I., R-1139, Shelbyville, Mich.
Burch, Mary E., R-86, 1261 So. Gaylord St., Denver.
Clayton, Hannah E., R-1142, 222 Abington Ave., Glenside, Pa.
Cox, Donetta, R-967, Memphis, Tenn.
Craigie, Hazel B., R-904, Brockton, Mont.
Dahl, Mary E., R-1408, 31 S. Wilson St., Bozeman, Mont.
Dahlgren, Fern V., R-590, Shakopee, Minn.
Dickinson, Ruth, R-11, 1063 Worcester Rd., Framingham Center, Mass.
Duff, Mildred L., R-1106, 311 E. Ridley Ave., Ridley Park, Pa.
Durst, Marion E., R-1175, Detroit.
Elk, Marianna, R-1167, 311 Cayuga St., Storm Lake, Iowa.
Erb, Lulu S., R-373, 2000 S. York, Denver.
Faist, Betty E., R-382, 406 N. Carolina St., Saginaw, Mich.
Finnegan, Grace K., R-1281, 3828 Cass St., Omaha.
Fowler, Delta N., R-1178, 1400 Fell St., San Francisco.
Frankel, Jeanette, R-127, 1311 Ave. K., Brooklyn, N. Y.
Frederick, Mildred L., R-1182, Riverton, Nebr.
Gaetjens, Clara L., R-1028, 746 Amaryllis Ave., Oradell, N. J.
Hagan, Gladys C., R-2037, Dorchester, Mass.
Halbert, Ida E., R-478, 1829 Matoax Ave., Petersburg, Va.
Haley, Iola L., R-784, Malin, Oreg.
Harris, Hilda, R-585, % Dr. E. E. Kaplan, 136 Waverly Place, New York.
Hill, Marion L., R-1043, 17 Cady St., Auburn, N. Y.
Hopkins, Virginia M., R-1109, 217 Haven Ave., New York.
Horton, Lucille G., R-1052, Wellfleet, Mass.
Jacobson, Dorothy D., R-76, 2620 East 22 St., Minneapolis.
Jensen, Marion A., R-1245, 407 W. 14 St., Hays, Kans.
Justin, Ruth E., R-1074, Westby, Wis.
Kerstell, Vera E., R-274, R. D. 1, Pau Ko Tuck, Oshkosh, Wis.
Knerr, Adele, R-1058, Portland, Oreg.
Kossove, Harriet R., R-980, Anthon, Iowa.
Kratoska, Katherine M., R-608, Ames, Iowa.
Lamb, Roberta H., R-1194, Cerro Gordo, Ill.
Lawrenson, Rosalie M., R-1238, Sterling, Colo.
Leidy, Edith, R-1057, Box 101, Westminster, Md.
Lerner, Lillian B., R-1322, 1810 Prospect Pl., Brooklyn, N. Y.
Linder, Martha A., R-95, 945 Ninth St., Beloit, Wis.
Loe, Vivian E., R-859, 2401 Cold Springs Rd., Indianapolis.
Lotwin, Gertrude, R-334, 809 Main St., Menomonie, Wis.
Mallon, Ruth E., R-1218, 87 Fairmont Ter., East Orange, N. J.
Marsh, Francis, R-762, Arrowsmith, Ill.
Marston, Helen V., R-925, Toano, Va.
Martin, Mary M., R-2094, 136 N.W. 18, Oklahoma City, Okla.
Matthews, Anne R., R-1196, Worton, Md.
McCormick, Jean A., R-1393, R. R. 1, Clarion, Iowa.
McFeely, Martha Y., R-1179, 4511 Mary Ellen Ave., Van Nuys, Calif.
McGinley, Ada E., R-973, Bozeman, Mont.
McIntyre, Ethel J., R-785, 731 Broadalbin St., Albany, Oreg.
Miller, Ann C., R-1104, 1103 Bedford Ave., Norfolk, Va.
Miller, Wilma L., R-1181, Minneapolis.
Mitchell, Barbara S., R-1006, 21 Franconia Drive, Cranston, R. I.
Morrissey, Martha J., R-1071, 19 Holly Dr., New Rochelle, N. Y.
Moss, Gladys F., R-19, 4429 Norledge, Kansas City, Mo.
Mosure, Jeanne L., R-232, 1715 Kent St., Columbus, Ohio.
Nichols, Marion E., R-1012, 412 Waban Ave., Waban, Mass.
Nicola, Iola E., R-830, 7330 19th Ave. N.E., Seattle.
Nilson, Violet, R-1207, 3317 N. Kilpatrick Ave., Chicago.
Olson, Ann L., R-974, 501 Lincoln Dr., Grand Forks, N. Dak.
Olson, Annette J., R-482, Manhattan, Kans.
Pabst, Martha L., R-900, Waterford, Ohio.
Pfluke, Eleanor N., R-1063, 2219 7th St. N., St. Petersburg, Fla.
Pheasant, Josephine D., R-1039, Box 128, Buffalo, Wyo.
Phillips, Margaret J., R-206, 5021 8th Ave., St. Petersburg, Fla.
Pollin, Natalie I., R-958, 255 West 98 St., N. Y.
Randolph, Ruth A., R-997, 1811 Andina Ave., Cincinnati.
Roseberry, Rebecca M., R-362, Box 545, Flagstaff, Ariz.
Ruth, Hannah B., R-582, Veterans Hospital, Dallas, Texas.
Rutherford, Marie O., R-1305, 210 Washington St., Denver.
Ryer, Miriam S., R-1186, % Lt. Col. C. Skladal, 54 Russell St., Woburn, Mass.
Sawyer, Agnes M., R-391, Hopkins Blvd., Biloxi, Miss.
Schafer, Mary L., R-1158, R. R. 3, Box 66, Bloomington, Ind.
Schenk, Grace M., R-947, 525 N. Buffalo St., Orchard Pk., N. Y.
Schlottman, Sibyl, R-1096, Gonzales, Texas.
Schmidt, Emilie A. P., R-394, 12 Wheeler St., Deposit, N. Y.
Schmidt, Virginia M., R-96, 6579 Glenwood Ave., Chicago.
Schreiber, Ida A., R-265, 2407 E. Main St., Richmond.
Schupp, Harriet L., R-1325, 604 Mercer St., Albany, N. Y.
Sell, Gladys L., R-2033, 912 E. Hillcrest Dr., Johnson City, Tenn.
Sherman, Frieda L., R-1116, 33 Central St., Marlboro, Mass.
Stocking, Inez M., R-254, R. R. 1, Box 22, Tempe, Ariz.
Stuart, Margaret, R-527, 271 Morningside Ave., Council Bluffs, Iowa.
Targonski, Jacqueline, R-615, 712 W. Maple St., El Segundo, Calif.
Tewkesbury, Grace M., R-475, 621 Stanton St., Ames, Iowa.
Thornton, Ruth E., R-1283, Rumford, R. I.
Tidwell, Mary I., R-440, 702 S. 5 St., Chickasha, Okla.
Tipton, Helen B., R-535, Commercial Hotel, Paola, Kans.
Tunnell, Teresa, R-1371, R. R. 7, Hico, Tex.
Visel, Kathryn J., R-1176, 721 N. 4 St., Niles, Mich.
Vlasak, Mabel G., R-1123, Prague, Nebr.
Wakefield, Elinor A., R-845, 512 Rebecca St., Sioux City, Ia.
Warner, Beverly F., R-411, 317 Euclid Ave., Syracuse, N. Y.
Wides, Ida, R-811, 66 Lafayette Ave., Englewood, N. J.
Wier, Mary N., R-169, 149 Cobb St., Athens, Ga.
Williams, Mary A., R-1085, 2130 N. 63 St., Philadelphia.
Willis, Anne C., R-459, 620 49th St., Savannah, Ga.
Young, Belle, R-1377, 34 W. 69 St., New York.
Zamsky, Helen S., R-509, Washington, D. C.
Zendzian, Wanda J., R-918, 8 Rob Roy Rd., Worcester, Mass.

Second Lieutenants

Aldrich, Marjorie F., R-2113, 706 Allen St., Springfield, Mass.
Ballard, Helen A., R-2236, R. R. 1, West Middletown, Ohio.
Borchert, Evelyn A., R-2059, 712½ Whipple St., Eau Claire, Wis.
Breger, Shirley D., R-915, 1226 Evergreen Ave., New York.
Crowe, Eleanor, R-2304, 236 Massachusetts Ave. N.E., Washington, D. C.
Dingle, Mary M., R-1173, 124 Park Ave., Swarthmore, Pa.
Dittus, Thelma A. W., R-1372, 342 McPherson Ave., Ottumwa, Iowa.
Douglass, Elizabeth A., R-2238, West Jefferson, Ohio.
Finard, Miriam E. G., R-2473, Revere, Mass.
Fish, Mary G., R-2179, St. Thomas, Pa.
Hahn, Bertha C., R-1323, 3007 Beaumont Rd., Louisville, Ky.
Heckel, Mary J., R-2389, 502 10th Ave. S.E., Minot, N. Dak.
Hixon, Alice E., R-2093, 917 Leland Ave., South Bend, Ind.
Holtze, Gladys E., R-1384, 317 E. Elm, Mankato, Minn.
Jolley, Victoria H., R-2156, Downs, Ala.
MacDonald, Marian C., R-266, 645 7th St. N.E., Mason City, Iowa.
Miller, Gussie A., R-2060, Carencro, La.
Monroe, Merna M., R-2101, 615 E. Robinson, Knoxville, Iowa.
Parham, Myldred M., R-2062, 1104 W. 22½ St., Austin, Tex.
Roach, Ivy O., R-2396, 158 Lefferts Place, Brooklyn, N. Y.
Schoffman, Margaret, R-44, 720 3rd Ave. S., St. James, Minn.
Thompson, Nelle E., R-2225, Shell Rock, Iowa.

[1] First Lts. Millie M. Regier, R-740, and Mildred E. Bowen, R-113, were not separated as reported in the list submitted for the February JOURNAL.

How to add Glamour

TO LENTEN MEALS

The Sealtest Food Adviser for Spring also includes some daring Easter and St. Patrick's Day menu suggestions

Ordinary recipes and menus have no place in this interesting March-April issue of the Sealtest Food Adviser. All are original . . . some even daring . . . every one helpful.

For example—a featured recipe is prune pie with a topping of cottage cheese . . . a novel dessert as appealing to the eye as to the taste.

Besides a number of intriguing menu suggestions for Lent, Easter and St. Patrick's Day, this Spring Issue of the Sealtest Food Adviser contains some practical and helpful information for the housewife.

There's an interesting page, for example, that illustrates a step-by-step method of teaching youngsters how to make a simple recipe like chocolate pudding.

There is also a sound, authoritative article by Dr. Dahle, of the Pennsylvania State University, on the many values of milk and dairy products for both adults and youngsters.

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TUNE IN THE SEALTEST VILLAGE STORE PROGRAM, STARRING JACK HALEY, THURSDAY EVENINGS, NBC NETWORK

Book Reviews

The World's Hunger. By F. A. Pearson and F. A. Harper. Ithaca, New York: Cornell University Press, 1945. Cloth. Pp. 90. Price $1.50.

Written for the layman, this book, based on scientific and statistical information from many sources, covers the very broad subject of the world food supply and the disastrous consequences, including the late World Wars I and II, which arise as a result of inequalities in food supplies. In general terms, and in an interesting style, production, trade, and consumption are explained, also the problems of moisture and temperature, land forms and soils, etc. The possibilities of improving the production of food are discussed, with the following conclusion: "Food production can be materially expanded on the present crop area by more complete conservation of animal manures, the expansion of commercial fertilizers, the use of more machinery, more efficient livestock, new and improved varieties of crops, control of animal and plant diseases, and more double cropping. These methods seem to hold more promise for increasing the world's food supply than does an expansion of acreage. Changes, however, will be slow and gradual, with little likelihood that they will contribute much during any one generation. In fact, the expansion will probably be less than the growth of population. This forecast is based on our present knowledge." For various reasons, also, enumerated by the authors, it is not likely that our fish supplies will be greatly increased.

With these latter facts in mind, the prediction in the last chapter, on "Food and Population Problems," that "food will probably be a more important problem in the future than it was during the past century when production was expanding in the 'new world,'" seems plausible. It is on this period, say the authors, that many persons base their optimistic predictions of the future trends in world food production. In fact, the balance of the chapter is devoted to deflating other familiar trial balloons by those who would "raise the standard of living of the hundreds of millions of the downtrodden third" by pointing out, for example, that "The lowest third in the United States consumes about 120 lb., dry, of animal products a year. To attain complete world equality on this basis, our lower third would be deprived of over half its livestock products." Or this: "Those who would equalize international welfare by redistributing food after it has been produced might better be supporting free immigration as a more practical means of accomplishing the objective." And again: "Some well-fed persons propose that the world's food habits be upgraded to their own level without any sacrifice on their part. To suggest that this can be done by increasing production of the highly prized foods is to propose the impossible." In fact, we have looked in vain for anything but such discouraging statements in this last chapter; nothing constructive is offered and we fear that the layman who reads it will find himself in the same position in which he finds himself as he peruses his daily paper — on the doorstep of World War III.

In other words, the first part of the book is informative, but, while we would be the last to dispute the need for realism in contemplating this tremendous problem, we should like to enter here a mild protest against the last chapter as an addition to what the *New Yorker* calls the "literature of postwar despair."

Les Etats de Carence en Belgique Pendant l'Occupation Allemande 1940–1944. By Professor Dr. Lucien Brull, Director, Institut de Clinique et de Policlinique Medicales, University of Liege, Belgium, and others. Paris: Hermann & Co. Paper. Pp. 286. No price stated.

This monograph, made possible through the help of the Fonds National de la Recherche Scientifique, is concerned with the nutritional status and the nutritional deficiencies prevalent during the four-year Nazi occupation of Belgium. The sixteen papers presented by a number of authors include studies of weight, blood pressure, and serum proteins, based on a statistical study of 9265 cases, studies of hemoglobin levels, nutritional status of workmen, hunger edema, vitamin C and fatigue, peptic ulcer during the war, results of a clinical examination of school boys and girls. All are in French, but résumés in English are included.

The tragic state of little Belgium is poignantly expressed in Dr. Brull's introduction. He tells of his tubercular patients who died one after another on being allowed no more than 500 calories a day, and of the hunger edema and other results of undernutrition on the population. He comments: "Nous avons lutté pendant les dures années de l'occupation pour sauver le flambeau de notre Université à travers toutes les difficultés. Nous apportons ici l'une des preuves de notre effort sinon de notre réussite."

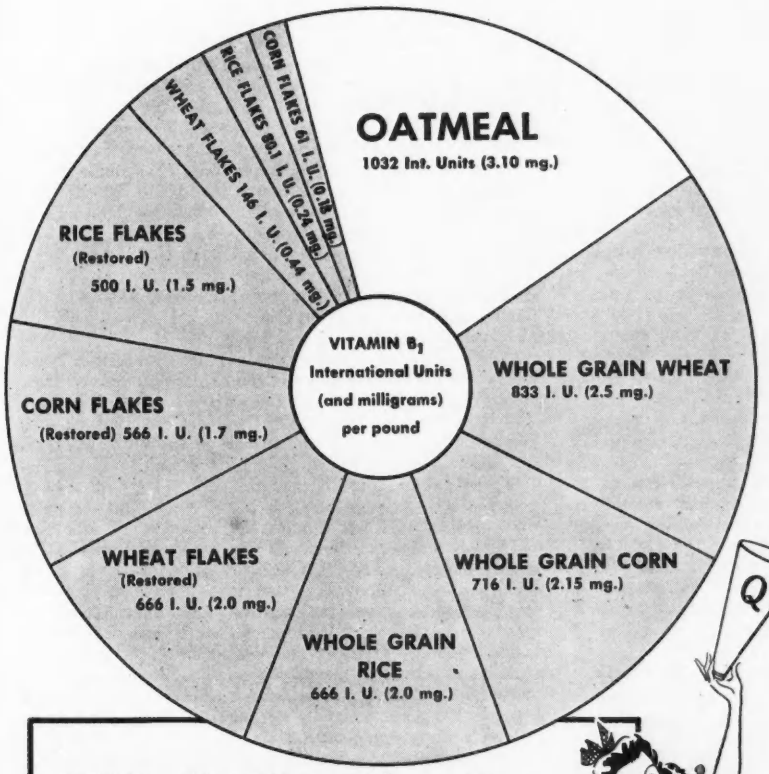
With regard to weight loss, it is said that the average loss after one year of war was 12%, after which the weight was stabilized and a maximal average loss of 12.9% was reached after two years. This occurred on an average intake of 1300 to 1500 calories. One of Dr. Brull's assistants, Dr. G. Barac, who during the Nazi occupation was compelled to labor on railway tracks, said that the most common finding among his fellow workers was loss of weight, and while their ration was deficient in calories and "several important elements," it was a little higher in bread, meat and margarine than that of the majority of the population.

Interesting observations concerning the critical items of protein and fat in the diet include the statements that prolonged malnourishment with accompanying "protein exhaustion does not influence the minimum N requirement"; and that "after long malnourishment with important N wastage, a normal fat intake [100 gm. butter] permits N storage, and positive N balance—even with a total intake insufficient to maintain the weight."

The Colony. By Iles Brody. New York: Greenberg, 1945. Cloth. Pp. 296. Price $3.50.

Of all the New York restaurants catering to the "upper crust" gourmet, few are so firmly established as is the Colony. Spawned amidst unsavory surroundings in the

WHY OATMEAL ... for Vitamin B_1?



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Delicious New Ways to Serve the Cereal That Leads Other Natural Cereals in Vitamin B_1

Try Chocolate Oatmeal

Two favorite flavors combine for new eating delight! Prepare Quaker Oats, then just before removing it from the heat, stir in two teaspoons of cocoa and two teaspoons of sugar for each serving.

Mmmm . . . Oatmeal with Honey!

Trickle a teaspoon of honey over a steaming bowl of nut-tasty Quaker Oats—it's wonderful! Try it!

Sprinkle with Brown Sugar

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early twenties, it is now a dining center for the more exclusive and the affluent.

But it is not the social aspects of this famed restaurant with which we are concerned. Rather, we would sing the praises of its noble cuisine. Even so, one who has been familiar with the great restaurants of France would hesitate to accept unequivocably Mr. Brody's bald statement that "the Colony is the most famous restaurant in the world." Unquestionably, though, it has the greatest renown and is the most fashionable in New York.

We make no apologies for enlarging on the subject of good restaurants and their culinary merits, for every dietitian should feel obliged to note and, where possible, to enjoy their artistry.

The late O. O. McIntyre placed the Colony first in his list of the six best restaurants in the world (circa 1930), followed by the Ritz-Carlton, the Paris Ritz, Foyot's and Tour d'Argent, and Horcher's in Berlin.

More than 100 of the book's nearly 300 pages are devoted to Colony recipes "simplified for home use." A cursory examination indicates that many of these have been oversimplified and that few, if any, except in the hands of a gifted cook, would be likely to develop even a faint resemblance to the original creation. In fact, the author frankly admits this. The recipes do serve, however, to give the novice some concept of the principles of *haute cuisine*, and the sections on soup, fish, meat, fowl and game, sauces and desserts really offer some workable ideas for dietitians and other devotees of good food.

In addition to all this, the book contains pages of delightful bits of gossip about the great and near great, socially and financially, and their favored dishes and foibles, even an outline of the Colony's "four-day reducing diet" which, it is said, Maestro Gene Cavallero "got together with [the help of] physicians, dietitians and similar evil-doers." Another interesting bit is the advice offered to the young man about to take his best girl out to dine.

Soups, Stews, and Chowders. By Lily Haxworth Wallace. New York: M. Barrows and Company, Inc., 1945. Cloth. Pp. 248. Price $2.

As the jacket proclaims, this is a collection of savory and satisfying one-dish meals, with menus and recipes. The content is presented in neat and orderly fashion, with an introductory chapter on the history and classification of soups, followed by a chapter on the making of the all-important soup stocks, including a simple method of preparing Court Bouillon which the author frugally suggests will make an excellent base for chowder once you've cooked your salmon or cod in its savory goodness. Other chapters include one on the clear, or dinner soups, with their appropriate garnishes; meat and chicken soups; fish soups; vegetable soups and purées; cream soups and bisques; soups "with a foreign flavor," including the Pot au Feu, Petite Marmite, Bouillabaisse, Vichyssoise, Borsch—in fact the favored soups of many lands including China. The next group, the jellied, chilled, and fruit soups, we'll pass lightly over for it contains two, if not more, seeming atrocities—Beer Soup à la Crème (which cannot but be a travesty on the French language at least) and Iced Beer Soup with sherry, no less, as one of its ingredients! Suggestions for soups from can or package, to which a touch of this or that may be added, as well as combinations, are included.

A good section on soup garnishes and accompaniments closes the soup subject and brings us to stews. There are beef stews and veal stews, lamb, pork and sundry stews, poultry, game, and meatless stews, and most of these suggest pleasant eating in the offing—even the Hasenpfeffer. The final sections cover chowders—fish and clam, vegetable and meat—and menus built around starred dishes for which recipes are to be found in the preceding pages.

Yes, as the publishers claim, homemakers, brides, even bachelors will welcome this book.

Tables of Food Composition in Terms of Eleven Nutrients. Prepared by Bureau of Human Nutrition and Home Economics, U. S. Department of Agriculture, in cooperation with the National Research Council. Washington: U. S. Department of Agriculture Miscellaneous Publication No. 572, 1945. Paper. Pp. 30. No price stated.

These tables contain average values for food energy, protein, fat, carbohydrate, three minerals, and the better known vitamins for a selected list of foods. To meet the needs of teachers, dietitians, nutritionists, and others engaged in planning diets or in calculating the nutritive value of food supplies, an attempt has been made to include the foods most commonly used in the United States and as many of the less common foods as there were data to warrant inclusion. Many of the components of the Army rations were included because these products are similar to those now available to civilians or likely to be in the near future.

Foods are grouped into ten rather broad classifications on the basis of similarity of character or use. In the small groups, items have been listed alphabetically but in the larger groups, *e. g.*, the grain products, subdivisions have been made to bring together items that may be considered in one category from the standpoint of use.

In all cases, nutritive values are given for foods as brought into the house for consumption. No account has been taken of losses in food value that may occur in preparation of meals.

State Board of Health Scholarships in Nutrition.

The North Carolina State Board of Health offers four scholarships at the University of Tennessee, Knoxville, for the year 1946. Applicants were to be admitted in January, March or June, and the scholarships provide a stipend of $100 a month for 12 months, plus tuition fees and travel while in training. The training period will be for 12 months, and will include 9 months of formal training and 3 months of supervised field work. Eligibility requirements include: age, between 23 and 35 years; a bachelor's degree in Foods and Nutrition, Chemistry or Biological Sciences from a recognized institution; and experience in teaching, hospital dietetics, nutrition research, or other related subjects for a period of at least 2 years.

Upon successful completion of the training at the University of Tennessee, candidates will be employed as nutritionists by the North Carolina State Board of Health. The salary scale for nutritionists is $1800 to $3000, with a travel allowance of $1200 a year. Interested applicants should send a transcript of their college record, as well as a statement of experience since graduation, to the Director of the Nutrition Division, State Board of Health, Raleigh, North Carolina.

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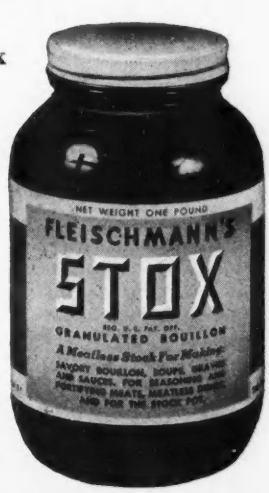

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Current Literature

Contributed by Janet Engebretsen and Janette C. Carlsen, Dietary Department, Johns Hopkins Hospital; Quindara Oliver Dodge, Women's Educational and Industrial Union, Boston; and the Journal staff.

AMERICAN JOURNAL OF DIGESTIVE DISEASES

Vol. 12, November 1945

* The clinical significance of cholesterol. G. L. Muller.—p. 355.
* Hyperinsulinism as a factor in peptic ulcer. C. M. Abrahamson.—p. 379.

Vol. 12, December 1945

* A nomogram for the preparation of insulin-protamine zinc insulin mixtures. E. M. Abrahamson.—p. 385.
* Metabolic abnormalities in obesity: A statistical survey. M. A. Goldzieher, N. A. Reimer and J. W. Goldzieher.—p. 387.
* The inhibitory effect of mineral oil on the experimental production of ulcers in the intestines of dogs. R. L. Driver.—p. 394.

Clinical Significance of Cholesterol. It may be concluded that alimentary hypercholesteremia after ordinary meals or meals containing considerable cholesterol has not been definitely proved. Studies have been made on the differences in cholesterol value according to age. During childhood the cholesterol level increases gradually to normal adult values in both sexes. There is general agreement that the level begins to change early in the second trimester in pregnancy and that there is a gradual rise up to the eighth month; then it remains stationary but high through the puerperium. Very little is known about the mechanism by which thyroid hormone influences the cholesterol value, however, there is reason to believe that in thyroid disease an inverse relationship exists between the basal metabolic rate and the cholesterol level of the blood, but that this relationship is not invariable. The clinical significance of cholesterol in cholecystitis and cholelithiasis is of particular importance because of the established treatment of this disease. On the assumption that hypercholesteremia is the cause of cholelithiasis, fats and cholesterol-rich foods have been excluded from the diet in the belief that dietary control may reduce the incidence of stone. However, even if a long-range diet may increase or decrease the concentration of blood cholesterol somewhat, so far there is little evidence available that either diet or blood cholesterol influences the bile cholesterol. Hyperlipemia is a frequent finding in untreated or uncontrolled diabetes and in the pre-insulin era increase of fat in the blood was a characteristic finding. This is not a derangement of the cholesterol metabolism alone, but of fat in general, mainly the neutral fat fraction. Whenever the fat is increased in the blood the cholesterol is increased. The reduction of plasma cholesterol concentration in diabetes since the introduction of insulin probably is due to the improved control of the diabetes rather than to the fat content in the diet as such. Treatment of hypercholesteremia in this disease thus would consist of the treatment of the diabetes.

Hyperinsulinism in Peptic Ulcer. Peptic ulcer is found only rarely in diabetics and this suggests some difference in constitution, since both are constitutional diseases. Hyperinsulinism can precede the symptoms of peptic ulcer and the chronic hypoglycemia often induces hyperperistalsis and spasm which might lead to ulcer. The assumption that all patients with peptic ulcer have hyperinsulinism furnishes a ready explanation for the diabetic's comparative freedom from the other disease. Experiments showed that peptic ulcer patients actually have hyperinsulinism. The fact that patients with the clinical diagnosis of peptic ulcer, but without x-ray confirmation of that diagnosis, have the same type of glucose tolerance curves as those whose diagnosis is fully confirmed, suggests the possibility that the hyperinsulinism, or at the least the chronic hypoglycemia, might have some etiological relation to ulcer. The role of caffeine in producing hyperinsulinism suggests that we reevaluate the assumed harmlessness of that alkaloid.

Nomogram for Preparation of Insulin-Protamine Zinc Mixtures. The accompanying nomogram gives all the information required to handle diabetics in six scales; a scale indicating units of quick-acting insulin; a scale indicating units of regular (or crystalline) insulin; a scale indicating the entire dose for the day; a scale indicating units of slow-acting insulin; a scale indicating units of protamine-zinc insulin; and a triple scale indicating the proportions of the mixture.

Metabolic Abnormalities in Obesity. The data in this study include: basal metabolism, specific dynamic action of proteins, fasting blood sugar, blood uric acid, lymphocyte count, 24-hr. urine volume, NaCl excretion and salt tolerance. The findings in 100 consecutive unselected cases of obesity were compared with those in another group of 100 consecutive obesity cases in which the clinical diagnosis of pituitary disease had been made. The mean basal metabolic rate is lower in the obese and significantly lower in pituitary obesity as well as in obese juveniles. The specific dynamic action of proteins, determined by the sample method after ingestion of a small protein meal, is lower than in previously reported controls. A higher specific dynamic action appears in obese patients of even fat distribution and in those with regional distribution of the hypothyroid or hypogonad type. The specific dynamic action is definitely low in pituitary obesity as well as in the juvenile group. The mean of the fasting blood sugar in the obese is normal but the distribution of the figures surveyed showed a substantial percentage in the hypoglycemic and hyperglycemic ranges. The mean blood sugar in pituitary and juvenile obesity is significantly lower. The blood uric acid is elevated in the obese. A higher mean was obtained in pituitary obesity. Lymphocytosis is a symptom of obesity and much greater lymphocytosis prevails in the pituitary group. Lower 24-hr. urine volume and diminished salt excretion characterize both the unselected and the pituitary type of obesity. On performance of the salt tolerance test, water and salt are retained in both groups, especially in the pituitary type; the difference of the means of salt excretion is statistically significant. The figures presented seem to indicate that deviations from the normal

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DISEASES OF THE KIDNEY

". . . actual improvement in the well-being of nephritic patients may be observed following the use of high-protein diets both in adults and children. In some instances functional capacity of the kidneys has been reported to improve on such a regime. . . . For the treatment of nephrosis the same dictum holds true, only to a greater extent. . . ."

DISEASES OF THE LIVER

"For many years carbohydrate alone has been considered the one substance capable of providing protection for the liver cells . . . . Protein has now been shown to be considerably more effective in this respect . . . .The effect of protein on the liver is not only reparative, but also definitely protective against the agents known to be toxic to the liver. . . ."

PEPTIC ULCER

". . . a rather high incidence of moderate hypoproteinemia in peptic ulcer cases has been reported. This may be a causal effect of inadequate dietary buffering of the strongly acid gastric secretion, or it may result from the insufficient quantities of protein supplied by the limited diets used in ulcer treatment. . . . Any ulcer, be it peptic, infectious, or the result of pressure and circulatory changes, represents a loss of tissue and requires protein for rebuilding. . . ."

OTHER CONDITIONS

"There are other medical conditions in which too little attention is often given to maintaining proper levels of protein nutrition. . . . In old age, for instance, all too often the food intake deteriorates to soft foods of limited variety. . . . Yet in such instances the same protein requirements for maintenance of the numerous body functions are still in effect. . . . An example of excessive alimentary loss of protein is seen in all types of chronic colitis, losses which must be replaced if the body is to be kept at high levels of efficiency. Protein may also be lost because of its excessive breakdown under the influence of fever or heightened body metabolism, and negative nitrogen balances may develop, as for instance in hyperthyroidism. . . .

"With the demonstration of this increased importance of protein dietetic therapy, it can only be recommended that there be an increased use of high-protein diets."

Among the protein foods of man meat ranks high not only because of the percentage of protein contained, but primarily because the protein of meat is of high biologic quality, applicable for every protein need.

*Anderson, Geo. K., M.D.: *The Importance of Protein in Diet Therapy,* J. Am. Dietet. A. 21:436 (July-August) 1945.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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metabolic state are so common in the obese as to assume statistical significance. The metabolic state is even more abnormal in obese juveniles and in patients whose fat distribution and clinical symptoms suggest pituitary disease.

Mineral Oil and Ulcer. Intestinal loops of dogs were exposed to an 0.1% pepsin in N/10 HCl solution under zero pressure or 9 cm. water pressure. In each of these groups some loops were treated with mineral oil and some were not. Mineral oil markedly inhibited the digestive action of 0.1% pepsin in N/10 HCl on the mucosa of the small intestines. That mineral oil might have such a protective influence was suggested by the fact that this agent inhibits absorption, apparently by coating the mucous membrane. For this reason the use of mineral oil immediately before or after meals is not recommended.

AMERICAN JOURNAL OF DISEASES OF CHILDREN

Vol. 70, August 1945

* Celiac syndrome. Dietary therapy for congenital pancreatic deficiency. D. H. Andersen.—p. 100.

Vol. 70, September 1945

* Human milk studies.—p. 203.

Diet in Celiac Syndrome. Prognosis for a child with pancreatic deficiency has been considered very hopeless; the longest known survival is 14 years. In the last 6 years, a patient with celiac disease has had a better chance to live if given proper diet and other medical therapy. The general regimen is: high caloric intake, low fat, high protein and carbohydrate (of specific types); vitamins A and D are given in plentiful amounts as well as pancreatin; vegetables are given in quantity. The effectiveness of the regimen depends upon the degree and type of upper respiratory infection; it is noted that when dietary control is relaxed, infection becomes more severe. Probably a strict dietary plan will have to be followed through life.

Human Milk Studies. The entire issue is devoted to this topic: diets for lactating women; breast feeding; and a summary of the vitamin content of human milk. It is suggested that pediatric dietitians read this issue in toto.

AMERICAN JOURNAL OF PHYSIOLOGY

Vol. 145, December 1, 1945

* Vitamin deficiency and overdosage and the resistance of rats to lowered barometric pressures. H. A. Charipper, E. D. Goldsmith and A. S. Gordon.—p. 130.
* The increased susceptibility of protein-deficient dogs to benzene poisoning. T. W. Li, S. Freeman, V. H. Hough and F. D. Gunn.—p. 166.
* The effect of protein and fat content of the diet upon the toxicity of benzene for rats. T. W. Li and S. Freeman.—p. 158.

Resistance to Low Barometric Pressure. Animals fed limited amounts of a complete synthetic ration and those given a diet deficient in thiamin for 2 months displayed a greater resistance than did rats given B_2 and B_6 pantothenic acid deficient diets, and controls which had free access to a complete purified or a stock food diet. Administration of 1 mg. thiamin to the B_1 deficient animals shortly before exposure to the reduced pressure resulted in decreased tolerance. Similar pre-exposure additions of vitamins B_2 and B_6 and calcium pantothenate to the respective deficient diets gave no significant result. Rats maintained for periods up to 48 days on diets containing supplements of thiamin, ascorbic acid and calcium pantothenate did not differ significantly from stock ration-fed controls in their resistance to reduced atmospheric pressures.

Diet and Toxicity. The protein content of the diet is of primary importance in determining the susceptibility of rats to benzene poisoning. Exposure to 600 p.p.m. by volume of benzene for 42 hr. per week further retarded the growth of rats fed protein deficient diets. Rats exposed to benzene and maintained on a high fat diet manifested a greater incidence of leucopenia than control groups, irrespective of the protein content of the diet. Rats on a protein deficient diet were less susceptible to benzene poisoning, as judged by mortality and degree of leucopenia, than were adult dogs maintained on comparable diets.

Benzene Poisoning. An inadequate protein intake markedly increases the susceptibility of dogs to chronic benzene poisoning. A high fat, low protein diet caused the highest mortality and shortest survival period when dogs were exposed to 600 p.p.m. by volume of benzene for 42 hr. per week. Protein deficiency increases the percentage conjugation of inorganic sulfates in the urine of dogs exposed to 600 p.p.m. Most of the clinical characteristics and laboratory findings of benzene poisoning as reported for human subjects can be reproduced in dogs maintained on a protein deficient diet and exposed to benzene fumes.

ARCHIVES OF INTERNAL MEDICINE

Vol. 76, October 1945

* Blood. C. C. Sturgis, R. W. Rundles and M. C. Meyers.—p. 239.

Blood. This is a review of recent literature on hematology, much of which pertains to anemia. Both the pernicious and macrocytic forms are discussed at length and the newer trends of thinking indicated. Of particular interest is the discussion on liver extract sensitivity. Reactions often do not occur until as long as 3 years after intramuscular therapy. Many people who are sensitive can take oral doses satisfactorily. This review to be continued with discussions on nutrition and anemia as well as anemia in pregnancy.

BULLETIN OF THE JOHNS HOPKINS HOSPITAL

Vol. 77, November 1945

* Lipid response to vitamin A administration. A possible test for vitamin A deficiency. H. W. Josephs.—p. 402.

Vitamin A Administration. After infants had been observed for several days, vitamin A in the form of halibut or percomorph oil was given. In the great majority of children, there was no lipid level increase. However, four of the cases presenting nutritional deficiencies showed a lipid rise lasting considerable time. Each of these malnourishd patients showed an extremely low (or absent) initial serum vitamin A. Not enough research has been done to draw definite conclusions but this study indicates that the lipid level rises on administration of vitamin A; this may be a means of testing for vitamin A deficiency.

CANADIAN JOURNAL OF PUBLIC HEALTH

Vol. 36, December 1945

* Educating food handlers. R. G. Knipe and M. J. Harper.—p. 465.

Educating Food Handlers. A report on a course of instruction for restaurant and café employees is presented. Realizing that routine inspection of food handling establishments was of limited value, the course was planned to increase cooperation between food handlers and the health department in the control of food-borne diseases. Those who passed an examination on the course were given accredited food handlers' certificates. Of a total of 222 restaurant and café personnel in the city of Prince Rupert,

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CANADIAN MEDICAL ASSOCIATION JOURNAL

Vol. 53, December 1945

* The human requirements of thiamine. E. Young.—p. 527.
* Anaemias of the new-born. E. B. Wiswell.—p. 555.

Requirements of Thiamin. There is great need for additional information on the human requirements of thiamin because of the conflicting nature of evidence available at present and the use of this evidence in the formation of national standards and policies as applied to food. An analysis of a dietary survey carried out by the individual method among families receiving incomes of $450 to $1,500 per annum in Halifax, including 385 individuals in 82 families, showed an average consumption of 0.20 mg. for men (range 0.13 to 0.43) per 1,000 total calories, 0.19 mg. for women (range 0.09 to 0.45). Expressed on the basis of nonfat calories the averages were 0.35 and 0.37 mg., respectively. In no case was clinical thiamin deficiency evident.

Anemias of the Newborn. The problem of the control of hemorrhage due to hypoprothrombinemia has practically been solved by the prophylactic and curative use of vitamin K, and as a result there should be no fatalities arising from this cause.

JOURNAL OF AVIATION MEDICINE

Vol. 16, October 1945

* The relationship of anoxia susceptibility to diet. D. M. Green, J. S. Butts and H. F. Mulholland.—p. 311.
* Effect of diet on altitude tolerance. M. Eckman, B. Barach, C. A. Fox, C. C. Rumsey and A. L. Barach.—p. 328.

Anoxia Susceptibility. Susceptibility to anoxia may be reduced by the feeding of diets high in carbohydrate prior to ascent. The magnitude of this effect is sufficient to justify its employment in the feeding of personnel engaging in flight under conditions of actual or anticipated lowered oxygen partial pressures.

Diet and Altitude Tolerance. The results of studies on the effect of diet on altitude tolerance at levels of 15,000 and 17,000 ft. are given. An increase of approximately 1,000 ft. in altitude tolerance is indicated by changes in the arterial blood gases and an increase of between 1,300 and 1,400 ft. in altitude tolerance by changes in the alveolar gases, after ingestion of a high carbohydrate as compared to a high fat-protein meal. Tests of pyschomotor and psychological performance under the above conditions show that a gain of between 1,000 and 2,000 ft. tolerance is also achieved. When subjects are permitted to choose the quantity and type of food they prefer, their altitude tolerance is decreased only to the extent of approximately 500 ft. below that following the special high carbohydrate meal. At high altitudes where 100% oxygen is breathed no benefit is derived from a high carbohydrate meal.

JOURNAL OF BIOLOGICAL CHEMISTRY

Vol. 161, December 1945

* The microbiological determination of amino acids in animal proteins. S. W. Hier, C. E. Graham, R. Freides and E. Klein.—p. 705.
* The regeneration of liver protein in the rat. H. C. Harrison and C. N. H. Long.—p. 545.

Determination of Amino Acids. A simple method for preparing samples for the microbiological assay of certain amino acids is described. The hydrolysate obtained may be assayed for arginine, histidine, lysine, leucine, isoleucine, valine, threonine, tyrosine, glutamic acid, and phenylalanine by the methods described. The amounts of these ten amino acids in casein, beef fibrin, lactalbumin, gelatin, pork pancreas, beef muscle, crystalline bovine albumin, and beef serum are reported.

Regeneration of Liver Protein in Rats. A simple and rapid method for the assay of the nutritional adequacy of dietary protein is described, based on the regeneration of liver protein in the rat following a 48-hr. fast. Gelatin, zein, gliadin, casein, and lactalbumin were among the proteins assayed. The complete inadequacy of gelatin can be demonstrated by this method. Zein and gliadin are superior to gelatin but can be shown by the technique to be incomplete protein, compared with casein and lactalbumin. A significant difference can be demonstrated between zein and gliadin, the latter being superior to zein; no difference is found between casein and lactalbumin. It has been shown that the addition of methionine or cystine to a diet containing an inadequate amount of casein will significantly increase the amount of liver protein regenerated after fasting.

JOURNAL OF NUTRITION

Vol. 30, December 10, 1945

* Nicotinic acid and the level of protein intake in the nutrition of the pig. M. M. Wintrobe, H. J. Stein, R. H. Follis and S. Humphreys.—p. 395.
* Field illumination and commercial handling as factors in determining the ascorbic acid content of tomatoes received at the cannery. G. F. Somers, K. C. Hamner and W. L. Nelson.—p. 425.
* The effect of manufacturing methods on the ascorbic acid content and consistency characteristics of tomato juice. W. B. Robinson, E. Stotz and Z. I. Kertesz.—p. 435.
* Secretion of vitamin D in milks of women fed fish liver oil. L. J. Polskin, B. Kramer and A. E. Sobel.—p. 451.

Nicotinic Acid and Protein in Swine. Observations on 61 pigs are described in which the effects of low and high protein diets supplemented with thiamin, riboflavin, pyridoxine, choline, pantothenic acid, inositol, and p-aminobenzoic acid, with and without nicotinic acid, are compared. Young pigs fed a high protein (26.1% casein) diet supplemented with the first 5 vitamins named, and not furnished with nicotinic acid, showed no signs of nutritional deficiency except for slightly less satisfactory growth in certain instances. When the protein content of the diet was low (10% casein) the omission of the nicotinic acid from the diet was associated with the development of signs of nutritional deficiency (markedly impaired growth, rough coats, diarrhea, poor appetite and severe anemia). Only in the last-mentioned pigs was there marked and consistent reduction in the urinary excretion of nicotinic acid derivatives. There appears to be a close nutritional relationship between protein and nicotinic acid.

Ascorbic Acid in Tomatoes. Little loss in ascorbic acid in tomatoes occurred during picking and transportation to the cannery. Considerable variation was found in the tomatoes from different fields. The data presented indicate that the amount of light for 18 days prior to harvest is closely correlated with the ascorbic acid content of tomatoes under field conditions. It is suggested that the variations in the fresh tomatoes may be an important factor in determining the variations observed in the ascorbic acid content of marketed tomato juice.

Ascorbic Acid in Tomato Juice. Losses of ascorbic acid were measured during commercial production of tomato juice with particular attention to possible variations due to different preheating temperatures. An over-all ascorbic acid loss of 15 to 19% occurred during manufacture and this was independent of the preheating temperature. A distinct

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effect of preheating temperature on consistency characteristics of the juice was evident. The principal loss of ascorbic acid occurred during the "breaking of the tomatoes." Considerable loss may occur during excessive holding of the hot juice in an open tank, but apparently little is lost during processing in the can.

Vitamin D in Human Milk. It is concluded that for the purpose of fortifying human milk with vitamin D for infant use, supplementation of the mother's diet with fish liver oil during pregnancy is not a practical method. Other beneficial effects of such supplementation on mother and fetus are not overlooked, however. Vitamin D must be taken just prior to or during lactation in order to enrich the milk appreciably; the minimal dose which, when added as a supplement to the mother's basal diet, will yield satisfactory increase of vitamin D in her milk has not been determined.

NEW ENGLAND JOURNAL OF MEDICINE

Vol. 233, December 6, 1945

* Diabetic neuropathy. A. Rudy.—p. 684.

Diabetic Neuropathy. Diabetic neuropathy is a disseminated neurologic disturbance that may involve any part of the nervous system. In most patients many of the manifestations of experimentally-induced thiamin deficiency in man are observed. The mere control of glycosuria, with or without insulin, does not prevent the development of diabetic neuropathy. The chronic and severer manifestations of diabetic neuropathy demand intensive and prolonged therapy. The treatment of choice consists of large doses of thiamin chloride and vitamin B complex, parenterally if necessary, in addition to control of the diabetes. The prognosis for recovery from diabetic neuropathy is fair, and in some cases even good.

PUBLIC HEALTH REPORTS

Vol. 60, December 7, 1945

* Dental caries experience in relocated children exposed to water containing fluorine. H. Klein.—p. 1462.

Vol. 61, January 4, 1946

* Biological aspects of morphine addiction.—p. 1.

Dental Caries. Among young children (ages 8 to 10 yr.) transferred to an area where the drinking water contains 3 p.p.m. of fluoride, further incidence of caries in previously noncarious erupted teeth was reduced approximately 60% below that which would be expected on the basis of the incidence observed in the control group. The data are sufficient to indicate that exposure of the erupted permanent teeth of younger children to fluoride waters provides a larger measure of protection against caries than does the same exposure of the erupted teeth of older children. Findings here show that the addition of small amounts of fluoride to community water supplies deficient in this element effects a reduction in caries incidence in the erupted permanent teeth of residents of school age; and that inhibition of such caries is most noticeable in the erupted teeth of the younger children.

Morphine Addiction. A longitudinal approach to the problem of drug addiction, using laboratory methods, was made on two post-addicts. The results of this study indicate that morphine addiction is accompanied by increases in: body weight, hemoglobin, packed cell volume, pulse rate, basal metabolism, and diastolic blood pressure.

SCIENCE

Vol. 102, December 21, 1945

* Transmission of the toxicity of DDT through the milk of white rats and goats. H. S. Telford and J. E. Guthrie.—p. 645.

DDT. These preliminary observations prove that with continued oral administration of DDT to goats and rats, a toxic substance is eliminated in their milk which produces symptoms indistinguishable from DDT intoxication. The data strongly suggest the need for more intensive research on the toxicity of milk from dairy cows ingesting DDT residues either from sprayed or dusted forage plants or from licking themselves after being sprayed or dusted with this insecticide.

AMERICAN COOKERY

Vol. 51, December 1945

* Winter carnival of fruits—chart.—p. 18.
* Flavor.—p. 30.

Spices and herbs. G. Blair.—p. 34.

* A glossary of cooking terms. F. de N. Schroeder.—p. 36.

Teaching and research. R. M. Eaton.—p. 40.

Winter Fruits. A chart to be used as a guide for the use of winter fruits in winter menus includes pictures of the fruits, names of the several varieties of each, a buying guide, instructions for storing, and the supply prospects. Dried fruits and tropical fruits are treated in equal detail. A separate chart shows the nutritive value, and recipes and pictures of many ways of serving fruits are included.

Flavor. In 1913 a chemist, Kleber, synthesized the first fruit flavor component—emyl-acetate, the ester responsible for banana flavor. Many fruit and spice flavors have been chemically synthesized, for many natural flavors are too fragile to withstand processing and storage. Flavor is made up of three factors: tongue taste, odor, and touch or feeling. The taste buds on the tongue differentiate four stimuli: sweet, bitter, salt, and sour. All tongue taste sensations are made up of different combinations of these. Odor is the most important factor in flavor. Aroma contributes much more than tongue taste in making flavor a rich experience. Sense of smell operates even to a greater extent when the food is in the mouth. Any odor with a sting or pungency will stimulate the sense of touch. Cells in the tongue and mucosa of cheek and throat are sensitive to this stimulus. Menthol cough drops create a cooling sensation. Sweet and bitter, and salt and sour seem to pair together. Sour, salty taste results from ions in solution; sweet and bitter, from substances that do not ionize. Bitter substances are slightly soluble in water. In solution they are slow to be detected, but the bitter taste persists once they are detected. The anion determines the intensity, while the cation determines the characteristic taste of the salt solution. Lithium or sodium ions with fluorine or chlorine ions produce the saltiest taste. Stimulus for sour taste is the hydrogen ion in solutions of acids, acid salts, lactones, and phenols. Hydrogen ion concentration and total acidity function independently in causing sourness. Most fruits are sweet and also sour, the tartness modified by one of the saccharides. Sourness results from organic acids as malic, citric, and tartaric. However, the characteristic flavors of fruits and spices are not the tongue-tasted elements, but the aromatic elements in the essential oils. These oils are usually concentrated in one particular part of the plant. In citrus fruits, the oil is in the colored portion of the skin; in apples and strawberries, just below the skin. Flavors of capers, horseradish, and pepper are unpleasant in themselves, but with other foods they are pleasing. Most natural fruit flavors contain certain components that would be disagreeable if tasted alone.

Origin of Cooking Terms. "Barbecue" comes from 17th century France. A group of shipwrecked pirates were living on wild goat meat. The goat was roasted whole, *de barbe en cue,* from beard to tail. And so the word barbecue originated. The French word biscuit really

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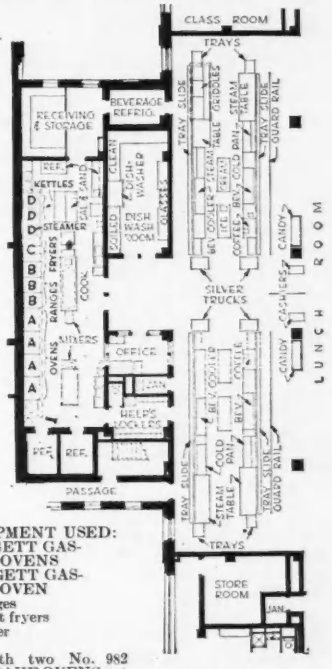

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comes from ceramics, not cooking. Twice baked clay is tougher and harder and for this reason, French sailors called the tough and hard pilot biscuit by that name. What we call crackers the English term biscuits. Chafing dish comes from the rough translation of *plat à réchauffer* or a dish in which to reheat things, and in which Welsh rarebit, creamed oysters, chicken à la king, and lobster Newburg are prepared. Colander comes from the Latin verb *colare*, to strain. Colbert, finance minister to Louis XIV, could always win the king's favor with a new mistress, but as the king aged and became ill, the plan no longer was successful. Colbert had to think of a new plan, and he, with others, decided a new soup would be the solution. Thus a double rich consommé was perfected. Annually, on August 26, it was mandatory for the Prince of Wales to eat two bowls of thick carrot soup in memory of the battle of Crecy, one of the bloodiest battles in history. But Edward, the Black Prince, who had never tasted carrots before, enjoyed his first carrot soup so much that he ordered a thick soup of beef and carrots (Crecy soup) served to all his men. Fork comes from the Latin word *furca*, something branched or divided. From earliest times, forks of various kinds were used to spear fish, pile hay, and hold large pieces of meat steady. Table forks were introduced in 1608. The word "pumpernickel" originated when Napoleon rode an Arabian horse, Nicolle, in the invasion of Germany. When offered some black peasant rye bread he screwed up his face and said, "C'est bon pain pour Nicolle." From this the German accent produced the term, pumpernickel.

AMERICAN RESTAURANT MAGAZINE

Vol. 29, November 1945

* Food control system spells success for Ewart. C. H. Hamilton.—p. 21.
Layout pattern (No. 10) is for quick sandwich service. C. Wagner.—p. 40.

Food Control. The Ewart cafeterias food control system includes a week-by-week plan with inventory each week; menus a week in advance and accurate records including storekeeper weekly report, storekeeper daily record, purchasing agent's work sheet, want list and portion sheet; inventory sheets; storage and warehouse report and portion record sheet.

BAKER'S HELPER

Vol. 84, October 20, 1945

* Recommended remedy for bakery manpower problems. J. B. Spark.—p. 40.

Vol. 84, November 3, 1945

* "The know how" of fruit cake. M. Spoth.—p. 60.
* Old reliable fruit cake. W. E. Broeg.—p. 62.
Selected formulas to tempt fruit cake trade. J. A. Lambeth.—p. 66.
Saving sugar with figures.—p. 76.

Vol. 84, November 17, 1945

Fruit flan specials—a distinctive dessert. J. A. Lambeth.—p. 56.
Old reliable fruit cake. W. E. Broeg.—p. 58.

Vol. 84, December 1, 1945

Experiments with lecithin in bread. D. B. Pratt.—p. 38.
Bread mould problem solved by electronics.—p. 48.

Training Bakers. The baking industry has been experiencing difficulty in securing high school and trade school graduates to work in shops and plants. Survey has shown that only 14 vocational high schools out of several thousand give courses in commercial baking. The equipment in most schools giving courses in baking is obsolete and incomplete. The baking industry has failed to tell the schools what should be included in the course of study. Skilled and capable instructors are not provided. Schools should give the students actual shop practice, and include films and talks by speakers from allied trades, along with training. The trade association should endeavor to render effective assistance to the school system through active functioning of educational advisory committees.

Fruit Cake. Fruit cake is best made with a pound cake batter as the base, using a medium strong spring wheat flour, a mixture of half emulsifying and half regular shortening, and a mixture of No. 10 brown and fine granulated sugar. There should be the proper proportions of raisins, peels, and cherries to supply the desired color and flavor. Pineapple can be used in large pieces and glacé cherries used whole; the proportion of 100 to 125% fruit and nuts to batter is most popular. In the future, wrapped fruit cake will go through the short-wave diathermic Megatherm oven to prevent formation of mold.

Fruit Cake. Formulas and methods of making fruit cake have changed, but sound principles of production have not. Creaming is not considered necessary, due to use of emulsifying type shortening and improvements in regular all-purpose hydrogenated shortenings. The flour-batter method of blending is usually preferred. The composition of shortening, sugar, and flour with liquid materials is regulated for its non-crumbling properties, while the acidity is regulated with cream of tartar or acidulating material to produce desired crumb character. Low cake sugar and high sugar in fruit are desirable for slicing. This last is accomplished by heating molasses, invert sugar, enzyme-converted corn syrup, malt and other syrupy materials with water and pouring over raisins and other fruit.

BUILDINGS AND BUILDING MANAGEMENT

Vol. 45, December 1945

* Just what are resin oil emulsion paints?—p. 54.
* Modern flooring materials. F. L. Lamb.—p. 56.

Paints. "Water paints" are resin-oil emulsion paints so processed that they can be thinned with water and will dry more quickly than oil paints. The water evaporates after application followed by evaporation of mineral spirits and turpentine, making a washable surface.

Floor Materials. Floor materials have developed from linoleum, the first resilient flooring material, to cork, then rubber. Asphalt is utility flooring. Rubber is the longest wearing, resilient and elastic, resists absorption and compression, can be cleaned with water alone or with water and ammonia. Good trisodium phosphate and such cleaners as Dreft and Orvus are also safe, but all traces should be removed with clear water. Any good water-emulsion wax seals the surface from oxidation.

FOOD INDUSTRIES

Vol. 17, December 1945

* The talk of the industry.—p. 72.
* Using DDT in food factories for long insecticidal effect. J. Feiner.—p. 76.
* Now—quick dehydration. E. S. Stateler.—p. 80.
* How to retard rancidity in salt-cured fish. R. E. Silver.—p. 84.
* Vanillic acid esters as food preservatives. I. A. Pearl and J. F. McCoy.—p. 88.
* Amioca—the starch from waxy corn.—p. 106.
* Editorials.—p. 117.
* New packages and products.—p. 120.
* Food industry news.—p. 125.
* Food equipment news.—p. 173.
* Letters.—p. 191.

Vol. 18, January 1946

* Calories or catastrophe. J. M. Cassels.—p. 71.
* Mobile precoolers protect perishables. R. A. Latimer.—p. 77.
* Lecithin increases the effect of shortening in bread. D. B. Pratt, Jr.—p. 84.

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"But, dear, this man can protect you better than I can," smiled Elsie, the Borden Cow

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* Cream puff troubles overcome by test studies. F. G. Wheeler.—p. 88.
* Control of microbiological food spoilage by fumigation with epoxides. Part I. R. Whelton, H. J. Phaff, E. M. Mrak and C. D. Fisher.—p. 91.
* Hot or cold air for foods in transit.—p. 96.
* Oil of angelica—production and characteristics. E. Guenther.—p. 104.
* New packages and products.—p. 114.

Advertising. Researchers find that advertising is of more interest than any of the editorial departments for 96% of the women readers of newspapers.

DDT. When used as an insecticide and with simple precautions, DDT is not dangerous to humans. Many persons have been employed in spraying it, working 8 hr. a day for months without suffering demonstrable toxic effects. Diluted powder has been applied to the skin and clothing without ill effects. It is definitely less toxic than sodium fluoride or Paris green in insecticidal doses. Oily solutions, however, are absorbed through the skin, and experiments have shown that it causes nerve and liver damage in animals. Adequate precautions should be taken, therefore, to minimize the opportunity for oil solutions to come into contact with the skin. Effect of inhaling DDT sprays has not yet been determined, but it is wise to minimize inhalation of such sprays, especially in the case of persons employed as exterminators. Wear clothes that cover neck, arms, and legs; also a hat and goggles. Use a respirator or moist gauze mask, and oil-resistant gloves. Use a clean, dry cloth to wipe off any solution that gets on the skin. Avoid spraying inflammable mixtures in the presence of a flame. If kerosene-base sprays are used, let them dry for at least 10 hr. before introducing a flame into treated rooms. Ventilate rooms during periods of drying. Before spraying, remove foods from room, or cover. Cover all surfaces of equipment and machinery with which foods come in contact. Experiences to date indicate that emulsions of DDT in water are better adapted for use in food plants than are other forms of application. Several satisfactory formulas are available.

To obtain the desired residual insecticidal action, it is necessary that a film of DDT adhere to the treated surfaces at a concentration of about 200 mg. per square foot. The degree of smoothness or absorptiveness of a wall surface determines the amount of spray that will be retained without runoff. Any good sprayer can be used, provided that it can be adjusted to deliver a semi-coarse spray, has oil-resistant fittings, and will not spill onto the operator—paint sprayers, agricultural insecticide sprayers, vacuum cleaner attachments. Hand sprayers (Flit guns) and motor-driven atomizers give poor results, as the fine mist produced is not effective for wetting solid surfaces. The spray dries fairly rapidly after application, leaving a film of DDT crystals adhering to the surface. This film is effective for periods ranging up to several months, provided that a sufficient amount of DDT has been applied properly. Sherwin-Williams Co. has developed a resin-emulsion wall paint mixed with DDT. This is an excellent article and includes lists of manufacturers, tables showing solubility of DDT in some common organic solvents, formulas, concentration required and rate of application for various surfaces.

Quick Dehydration. Describes in detail the Birdseye method embodied in the unit built for American Home Foods, which uses controlled heat applied by radiation, conduction and convection, together with mechanical and air agitation of the material.

Preserving Salt-Cured Fish. In a method developed by the Q.M.C. Subsistence Research and Development Laboratory, Chicago, an antioxidant or synergistic combination of antioxidant is dissolved in a carrier of edible fat of a type that is solid at room temperature and relatively resistant to oxidation because of its chemical nature. The fish, after completion of normal commercial salting process, is dipped in the liquefied fat which, upon cooling, forms a thin, solid coating. During storage, the fish oil, upon liberation from the fish, is absorbed into the coating and thus obtains the benefit of the protective action of the antioxidant in the coating. Method can be applied to other fatty foods and to quick-frozen fish.

Vanillic Acid Esters as Food Preservatives. A detailed report on the effectiveness of vanillic acid esters in inhibiting three types of aerobic micro-organisms found in food products. Article includes studies on bread, cheese spreads, fish and fruit juices.

Amioca. Waxy cornstarch, known industrially as amioca, has properties similar to the root starches, tapioca and potato. Under the impetus of the war it was commercialized at an extremely rapid rate. In salad dressings it has proved very satisfactory because of the combination of high viscosity with lack of tendency to gel or form tough skins. In such food products as Minute Tapioca, amioca is excellent because of its high water absorptive power and the fact that the gelatinized dried starch will hold together well. Pastes from thin-boiling amioca remain soft and fluid when cooled. They are very clear and are solubilized to a considerable degree when cooked.

Hazards of Refrigeration. Death by freezing in his own ice cream hardening room came to one man this past summer. He had forgotten that the inside releasing plunger had been removed from the refrigerator door for repair. A simple sign on the door, warning of the condition of the lock, might have averted the disaster, or complete removal of the lock during its repair, or the door could have been propped shut for a day or two. Again, in an air-blast freezer where the temperature was 50°F. below zero, it was impossible to open the door from the inside because ice had wedged it shut. The door should have been kept clean. Ammonia systems occasionally break, releasing huge quantities of the refrigerant, which in concentrated form can cause death very quickly. Very often the compressors, receivers and evaporators are located alongside the only exit, which would make escape impossible if the leak arose at that point. Two remedies are suggested: build an emergency exit as far as possible from the place where a serious ammonia leak could occur, or locate both the emergency stop switches and the ammonia cut-off valves so that the handles are *outside of the building*. "One shudders at the total ignorance of ammonia hazards in some of the newer quick freezing plants, and the complete lack of either of the foregoing precautions."

New Products. Recently developed products include: corned beef, liverwurst, and pork tongue sandwich spreads in 6-oz. cans, by Stahl-Meyer, Inc., New York; quick frozen oysters Newburgh, by C. F. Van Valin Co., Seattle.

Training in Food Processing. To provide training for careers in food processing and related industries, an earn-while-you-learn plan has been instituted at the College of the Pacific, Stockton, Calif., sponsored by the Food Processing Foundation, an organization recently created by a group of canneries, frozen food plants and allied industries in northern California.

Fire-Repelling Paint. Paint which protects wood and other materials against fire, and which is approved by underwriters, is announced by General Detroit Corp., 2270 E. Jefferson Ave., Detroit 7, Mich. It is shipped as a concentrated paste.

Job-Getting Techniques. "The technical man with complete equipment for a new job must be his own salesman, and should have the stamina and courage to decline the offer of a position if the salary is not commensurate with his potential and proved ability. I doubt very much whether the American Chemical Society, the I.F.T., or other technical organizations can do anything of a practical nature in raising the ceiling on salaries. . . . Personality is perhaps the most important and outstanding element in all of the qualifications. . . . The individual should have the moral courage to analyze critically the requirements of a new job

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Food Shortages in Europe. "Tragic food shortages in Europe's cities are real, and America must accept a course of action that will protect its vital stake in world security." An estimate of the needs of our starving neighbors and a program for supplying our just share.

Protection of Perishables. Self-contained refrigeration units mounted upon semi-trailers and trucks have been used to precool fruit and vegetables shipped from western producing areas to eastern representatives. For precooling leafy vegetables, such as celery, lettuce and cauliflower, General American Precooling Corporation has developed a cold-water-bath type of cooler. Crates of vegetables are transported on a slow-moving conveyor through a vat filled with water which is circulated through refrigerated-coil tanks. The use of this equipment has reduced spoilage and guarantees arrival of perishables in good condition.

Lecithin in Bread. Results of a study on the use of lecithin (a by-product of soy oil extraction industry) in bread showed that: Addition of lecithin increased the effectiveness of the shortening used. Maximum beneficial results were obtained when 0.25% of lecithin was added. Method of incorporating the lecithin is flexible and a matter of personal preference. Presence of lecithin does not affect dough consistency but does modify dough conditions during mixing. There is no adverse effect of lecithin on fermentation. Addition of lecithin improves the handling properties of doughs. Proof and baking time are not affected. There is little or no effect on volume. There is a beneficial effect upon crust properties, crumb texture and grain, external appearance and keeping quality of the baked loaf.

Cream Puffs. Reports results of a detailed study by Armour and Company Research Bakery staff. Precise instructions are given for making cream puffs, which are not found in the usual formula or recipe book.

Fumigation of Dried Fruits. Epoxides, organic compounds with an oxygen atom linked to two connecting carbon atoms in the same chain, are powerful reagents against certain yeasts, molds and bacteria that attack foods. Of the fumigants tested on dried fruits, the most successful was ethylene oxide, used either alone or mixed with some substance to lower its vapor pressure.

Reversible Refrigeration. Reversible refrigeration has been put to practical application in a new highway trailer air-conditioning unit which cools perishables when the weather is hot, warms them when it is freezing. Equipped with this double-duty conditioner, a trailer may safely haul fruits and vegetables from the warm South to the freezing North, or carry butter in the reverse direction.

Angelica. Grown in Europe, Canada and the United States, the angelica plant is a source of flavoring material for the food industries. Physical and chemical characteristics of the essential oil are given in detail.

New Products. Groveland Products Co., Miami, is manufacturing a group of flavoring powders for use in milk drinks, including cocoanut, eggnog, banana, and Pina Colada (cocoanut and pineapple) under the brand name Tropaya. A dressed-up version of the macaroon is presented by Karl Baking Co., Newark, N. J. Fruited Mac's are made with imported Jamaica rum and Portuguese brandy, cake flour, macaroon paste, egg white, seedless raisins, diced fruits, and artificial flavors.

FOOD RESEARCH

Vol. 10, November-December 1945

* Magnesium content of meats. V. Toscani.—p. 461.
* Nutritive value of canned foods. VII. Effect of commercial canning and short-time storage on ascorbic acid content of grapefruit juice.—p. 469.

Plain butter cakes and baked custards made from spray-dried whole-egg powder. J. E. Ary and R. Jordan.—p. 476.

* Study of quality in temple oranges. P. L. Harding and F. M. Wadley.—p. 510.

Magnesium Content of Meat. Figures for the magnesium content of meat as determined on 71 samples of various cuts show close agreement with published data.

Ascorbic Acid Retention in Grapefruit Juice. The retention of ascorbic acid during canning of grapefruit juice ranged from 92.2 to 99.6% with an average retention for all plants of 96.7%. During subsequent storage for 40 days (72°F.) samples of grapefruit juice retained, on the average, 91.3% of the ascorbic acid present in the freshly canned juice.

Palatability of Oranges. Palatability ratings of Temple oranges show a marked seasonal trend, rising rapidly through the late fall and early winter, reaching a peak in late winter, and dropping off a little in early spring.

HOTEL MANAGEMENT

Vol. 48, December 1945

How a state and its cities cooperated to teach better restaurant sanitation. T. Flynn.—p. 46.
* Pre-rinser.—p. 56.
* Chefs of Cuisine Association.—p. 56.
* Anhydrous vegetables.—p. 57.
* Anthracite Industries.—p. 57.
* New detergent.—p. 57.

Pre-Rinser. A machine which scrapes and pre-soaks tableware before it enters the dishwasher is on the market. It is made of satin-finish aluminum, which does not corrode or rust. A continuous stream of water washes the garbage clean and floats away grease and floatable scraps. It has thermostatic control for correct water temperature.

Rotary Cooker. The manufacturers of a new rotary cooker claim that through the use of "reflected heat" all the juices, vitamins, and the minerals in meat are retained. There is no grease, odor, or smoke when it is used. It cooks by gas and is powered by electricity.

Anhydrous Vegetables. Anhydrous vegetables and fruits can be prepared for serving in from 4 to 10 min. and still retain the flavor, color and aroma of fresh produce. The secret of the new foods lies in the speed with which the water has been extracted. Also, foods are semi-cooked in the process.

Coal Ranges. A heavy-duty automatic stoker-fired anthracite commercial range is coming back on the market. The range is said to be safe, odorless and economical. Lowered stack temperatures show that range-heated water is a low-cost by-product of coal cookery.

Detergent. There is a new detergent for cleaning wall-to-wall carpeting in hotels and restaurants. A powder, it lathers very well and is said to contain no soap. It is used in solution and is applied with a rotary brush. The dirt and the soiled detergent are removed with a vacuum. The detergent also is said to disinfect, deodorize, and demoth.

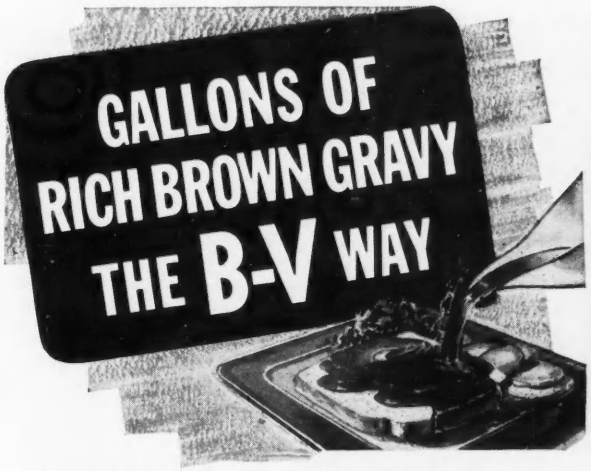
HOTEL MONTHLY

Vol. 53, December 1945

* Hotel School of Paris (France).—p. 30.
* How to make more profit from turkey entrees.—p. 48.

Summary of specifications for U. S. grades for eviscerated, federally inspected turkeys.—p. 52.

Teaching Hotel Work in France. The Hotel School of Paris has for its goal the training of qualified personnel for the hotel, restaurant and café business. No specialization is practiced at the school. However, the studies have been organized so that it will be possible for former pupils to advance themselves to better hotel positions. The full course covers 3 years. Foreign students may attend full or part time. Practical hotel experience is gained during July and



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INGREDIENTS	25 SERVINGS	100 SERVINGS
Bacon drippings or lard	½ lb.	2 lbs.
Flour	4 oz.	1 lb.
Vegetable water or milk	7 cups	7 qts
Wilson's B-V	2¼ oz.	9¼ oz.
Volume	1¾ qt.	1¾ gal.

Melt fat, blend in flour and add liquid, stirring constantly until thickened. Add B-V, which has been dissolved in a small amount of the hot mixture.

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Wilson's B-V is a delicious blend of concentrated meat extract and selected vegetable flavors. It adds valuable nutrients to the diet.

One teaspoon of B-V, the amount used to make a cup of broth, furnishes 36% of the day's requirements of iron, 66% of the riboflavin and 24% of the niacin, based on amounts recommended by the National Research Council for a sedentary man weighing 70 kg.

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August. The school has 200 students when in full operation. Studies required include secondary school subjects and technical instruction in hotel keeping, hotel accounting, nutrition, hotel cookery, "health diet," wine history, as well as practical studies in food chemistry, electricity, wine-making, and varied services in hotel work. Each day a group of pupils prepares the midday meal. The bill-of-fare made out by the chef is particularly elaborate and is prepared under his direction with foods of excellent quality. Nutrition is stressed, and students are taught how to prepare food to retain the maximum food value.

Turkey. For sandwiches, salads, cold plates, etc., turkey meat is more economical than chicken. When preparing for this type of service do not overcook the breast. One chef handles this problem by cooking the birds in boiling water. As soon as the breast is done it is removed from the carcass and immersed in a pan of shaved ice which closes the pores of the meat so that it retains all of its juices. The remainder of the bird is immediately put back into the water and cooked until tender. This method produces white meat of good color that slices and holds up well, and dark meat that is easily removed in such a manner that full utilization can be made of every particle. The same chef follows this procedure in roasting turkeys: Rub salt and pepper into the skin and place the bird on a bed of carrots, onions, celery, breast down. After roasting for about an hour, turn breast up and finish cooking in that position. Roast very slowly and test for doneness by piercing the legs—never the breast. The birds carve better when allowed to stand at room temperature for at least half an hour. Two recipes for using up turkey odds and ends are included: cabbage stuffed with turkey and rice, and a new turkey potpie.

INSTITUTIONS

Vol. 17, November 1945

* Color is a big part of planning in the institution of today.—p. 1.
* Equipment, part-time help improve inplant feeding.—p. 18.

Color. Today, in institutions all over the world, color has come to be more and more important—not only for its decorative effect, but for its multitude of applications in the fields of safety engineering, psychiatry, medicine and nutrition. Institutions, faced with the problem of providing for two groups, the public and personnel, must plan for both groups. Except for their use in public rooms, where a spirit of activity, gaiety, or excitement is to prevail, soft, subdued colors are of universal appeal. Green, rose, blue and gray for large wall areas, accented here and there with dashes of brighter color, are widely recognized as satisfactory colors for general institutional use. Many institutions in recent years, formerly painted entirely in white, are turning to the use of pastel shades because color has proved to be an advantage.

Dark colors help to make things look smaller. Long, narrow rooms can be made wider by dark end walls. Square rooms may be made more interesting with alternate dark and light colored walls. A dark ceiling looks lower than a light one. In many institutional kitchens, where high temperatures are likely to prevail, "cool" colors such as blue or green will add to the comfort of workers.

In-Plant Feeding. Barber-Colman Manufacturing Co., Rockford, Ill., employing 2400, feeds about 1400 workers in its two cafeterias with a full-time cafeteria staff of only 22, and a dietitian in charge. Automatic equipment makes possible the use of rapidly-trained workers from production departments of the plant. Both men and women assist the full-time cafeteria staff for a short period each day in the preparation and serving of a varied menu. These helpers are paid at the rate for which they normally work in other departments, receiving in addition their own meals free of charge. Steam tables, equipped with thermostatic controls manufactured in the plant, keep food at a constant temperature of 150°F. Because of the limitation of size, efficiency is a watchword in the kitchen. A three-tiered steam cooker permits preparation of vegetables without appreciable lowering of vitamin content. A large walk-in refrigerator for meats is equipped with a germicidal ultra-violet lamp; fry-top ranges permit speedy cooking of steaks and chops. Three refrigerators help solve the storage problem; one contains only butter. Food for both cafeterias can be prepared by as few as 6 employees. In the company's own bakery, a baker and one assistant bake 80 to 110 pies daily as well as 7 or 8 large cakes, and muffins or rolls. Twice-a-day scrubbing of the entire facilities, including all equipment, keeps the unit spotless.

JOURNAL OF HOME ECONOMICS

Vol. 38, January 1946

* Procedures which reduce food costs. S. Jarrard.—p. 7.
* Postwar equipment. A. E. Baragar.—p. 11.
* West Virginia food study. M. F. Best.—p. 31.

Cost Control. The second article by Miss Jarrard, of Harris, Kerr, Forster and Company, San Francisco hotel accountants and consultants, discusses the problem of keeping food costs in correct ratio to income. Sample daily quotation and order sheet, formula card, receiving sheet, and portion specification card are included.

Equipment Purchasing. Extreme care in selecting appliances introduced during the reconversion period is necessary. Buyers should consider whether the appliance has been thoroughly tested; whether it has been approved by a laboratory such as that of the American Gas Association for gas appliances; whether the manufacturing company is large enough to withstand the keen competition that will exist for the next few years, thus making repair parts available 5 or 10 years hence. Home economists are in a better position than the housewife to help design new equipment. The experience they have gained is invaluable and should be passed on to the designer of these new appliances. A useful bibliography is included.

Nutrition Demonstration. After a study of 1200 school children, from the fifth to the tenth grades, in three counties, had been made, a nutrition demonstration was held in each of the counties directed by Dr. Walter Wilkins, U. S. Public Health Service. Some of the children showing various signs of undernutrition were selected for the demonstration, to which professional and lay leaders were invited. The children were reported to have been eager to participate in this session.

PERSONNEL JOURNAL

Vol. 24, December 1945

* American strike scene. C. S. Slocombe.—p. 203.
English socialism. C. S. Slocombe.—p. 207.
Australian social service. P. J. Clarey.—p. 221.
* Better personnel administration. F. K. Kirkpatrick.—p. 231.
* Book Reviews: Management of inspection and quality control. J. M. Juran.—p. 239.

Strikes. Owners have oversold their formulas that production will expand indefinitely and that workers will improve their living standards annually. Workers have lost sight of the fact that advances are proportional to expansion of profitable production. A kick-back in the form of strikes comes when workers are asked to accept a reduction in living standards as compared with the immediate past. In the face of public opinion and expectation of workers it will be hard to place emphasis on living standards advancing in proportion to rate of expansion. If a serious depression comes, capitalism may be threatened by a movement toward socialism and nationalism in America.

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This provides 100 and 400 per cent respectively of the adult minimum daily requirements for VITAMINS B_1 and C.

19 OUNCES of FRESH NATURAL, tree-ripened FRUIT JUICE was used in the making of this 12-ounce can of DEHYDRATED SUNWAY BEVERAGE BASE.

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These delicious new dehydrated fruit juice flavors are developed by a new and exclusive process and are ***Easy to Prepare*** — just add water and sweeten.

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Personnel Administration. Keeping prices adjusted so that goods will attract buyers is to the interest of both labor and management. Prices must cover costs of goods and employment. Unions need to consider what effect their wage demands will have on unit costs, selling prices, physical volume of sales and employment. The union demands for wage increase with less hours of work are for the purpose of upholding the standard of living, and they are assuming that productivity has increased so during the war that the wage increase can be made without requiring price increases. As long as wage rate remains high there is less likelihood of family allowance, as is now in effect in Canada. Wartime practices of settling such labor disputes as equal pay for equal work, regardless of sex, color, or race; minimum wage rates to eliminate substandards of living; maintenance of union membership and its attending responsibility; job classification and integrated wage rate schedules; premium pay for shift work and arbitration as the capstone of union-management relations, may carry over into peacetime. Emphasis is shifting from government to nongovernment factors in personnel organization. Friction and tension can be subdued by keeping relations on a conference basis and lifting personnel administration to higher levels by the use of first rate methods and men in the field.

Inspection and Quality Control. Juran, in writing on managerial aspects of inspection and quality control, stresses complexity of human problems as greater than technical engineering issues. He states that the cost of finding defects is often greater than the loss caused by the defects.

RESTAURANT MANAGEMENT

Vol. 57, December 1945

Money making methods. F. Searing.—p. 21.

Converting an all-electric coffee shop kitchen over to self-service. G. J. Peppard.—p. 30.

* An industrial cafeteria that was built on the basis of permanent need. W. McGregor.—p. 36.

* Matching men to the jobs they are best qualified to do. J. W. Briggs.—p. 38.

How cold storage facilities cut our costs. W. Phipps.—p. 41.

Industrial Cafeteria. The General Cable Corporation, St. Louis, built an in-plant cafeteria with the best equipment available at present. The dining room and kitchen occupy 11,000 sq. ft., with a seating capacity of 300, and 68 employees. Proper ventilation is provided by a blower system. The equipment is set up for air-conditioning as soon as the refrigerating unit becomes available. Counters are all electrically-heated and fluorescent lighting is used to display foods most effectively. Electric eye attachments are used at the entrance to the dishwashing room and a modern disposal unit chews the garbage and sends it to the sewer. Tile hoods over the ranges carry off steam and odors.

Matching Men to Jobs. In order to match a man to a job, it is necessary to be familiar with each job's requirements and to know all about the applicant's past work, education, preferences, and other factors. The personnel manager must break down each job into separate tasks, analyze each action taken in their performance, determine how these actions are taken, why they are taken, and note the skills required. The personnel manager must also observe the degree of initiative, planning, supervision, or direction the job requires. A utilization study should be made of the job to determine the time, motion, physical exertion, and personal concentration required for a certain job.

TRAINED NURSE AND HOSPITAL REVIEW

Vol. 115, December 1945

* Feeding workers is an art. A. H. Smith.—p. 401.

Feeding Workers. Where a dietitian or nutritionist is employed in an industrial plant there are unlimited opportunities for cooperation between the nursing staff and the food and nutrition personnel. Any well planned nutrition program must concern itself, not only with the food service, but with other factors that determine the extent to which food nourishes the human body. A good program takes into consideration rest, fresh air, sunshine, reasonable freedom from nervous tension and fatigue. It is encouraging to know that the organized nursing groups are interested in doing a better job of industrial nursing, including the health education aspects of it, and in many areas have asked the colleges and universities to provide the necessary training for effective public health nursing in industry.

Work at a County Council School Feeding Kitchen

THE KITCHEN at which I work as supervisor is a prefabricated hut, and was completed only a few months ago. The equipment is all electric and very up-to-date. We are what is known as a "central kitchen" which means that the food we prepare is not eaten on the premises, but taken in vans to outlying country schools. Some of these do not have even a water supply so we must send them drinking water every day. . . . Every school has its own marked insulated containers for each kind of food sent out. Schools are asked to send back all their waste so that supervisors can check which dishes have been popular and which have not. Occasionally we have a "request week" for which headmasters and mistresses are asked to collect a list of favorite dishes from the children. Needless to say "request week" is very popular.

It is interesting to note how school meals affect the appetite and taste of the children. When this kitchen first opened some of the schools—where school meals had been served for the first time—sent back a considerable amount of waste, especially of salads and raw vegetables which are served very frequently. In time, however, the children got used to these, which are to them unusual dishes, and we have repeated requests for them. It has also been found that in a comparatively short time the children put on weight and their health improved. It is to be hoped that the school meals scheme will be developed as much as possible.—*From an article by M. Szigeti, in the Autumn 1945 News Letter of the British Dietetic Association.*

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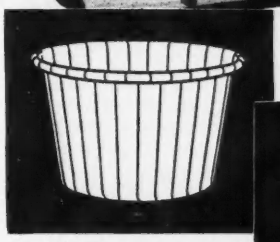

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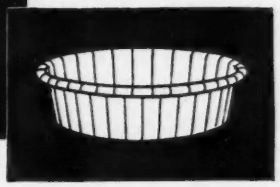

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News Notes

British Dietetic Association News Letter. The Autumn 1945 issue announces that the British Dietetic Association now has an office at 342 Abbey House, Westminster, London, S.W.1, where Mrs. Thomas, the secretary, will welcome calls from members and others interested between 11 a.m. and 1 p.m. and between 2 p.m. and 4 p.m. every weekday except Saturday and Tuesday afternoon. The announcement adds: "It is hoped that in the future we will be able to build up a library. The first step in this direction is the JOURNAL of the American Dietetic Association, which may be seen by members in our new office."

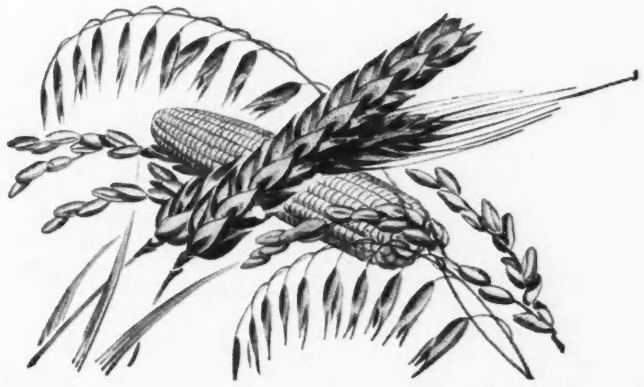
A British Dietetic Association journal is also contemplated, planned to include editorials, original articles (including those of outside contributors), abstracts, lists of recent publications, summaries of references on nutrition and related topics, reports, correspondence, and news of members. "Articles on subjects of particular interest at the moment and a lively correspondence column are needed if the journal is to be a stimulating medium for expressing the views of the growing association," add the editors, "Your contributions are needed. The success of this journal is your responsibility as well as ours. Suggestions and constructive criticism are also welcome. As paper is scarce, we suggest that for the present, articles should be limited to 1000 words and letters to 250."

U. S. Public Health Service. Appointments to fill vacancies in the Reserve Corps of the United States Public Health Service are now being made, and examinations for Regular Corps appointments will be held in April and May, Surgeon General Thomas Parran announced January 17. Physicians, dentists, and nurses are needed immediately for duty in hospitals, in the tuberculosis and venereal disease control programs, and in other activities of the Public Health Service. Commissions for hospital dietitians are open in the Public Health Service in both the Regular and Reserve Corps, according to Jean Henderson, Chief of the Office of Health Information. Pay and allowances, established by law, are identical with those for medical officers of the Army. All travel expenses, including travel to first station, are paid by the Service.

Individual Contributions for Liberated Countries. A summary of voluntary relief activities which supplement the government-supported work of UNRRA was made public by UNRRA in January. Herbert H. Lehman, Director General of UNRRA, simultaneously expressed the deep appreciation of his organization for the generosity being shown by Americans as individuals, as well as by the United States as a nation, during the Christmas season, and the hope that such gifts to Europe and the Far East would continue throughout the critical year of 1946. "Though the voluntary gifts by Americans may seem small in comparison with the large and absolutely essential appropriations made by Congress, they are a tremendous help to the whole relief program in what has been described as the worst winter since the Middle Ages," said Mr. Lehman. Results of the United National Clothing Collection of last spring exceeded all expectations, sufficient to clothe 25,000,000 war victims having been collected, which are literally saving thousands of lives. Through its Contributed Supplies Division, UNRRA performs two services for contributors: (1) it accepts direct contributions to UNRRA for shipment, at UNRRA's expense, to specified countries for distribution by the governments of those countries without discrimination and on the basis of need; (2) it has assisted voluntary relief agencies in the shipment of contributions to specific consignees in designated countries, at the expense of the contributor. Organizations and individuals interested in making contributions of money to UNRRA should address Contributed Supplies Division, Bureau of Supply, UNRRA, Dupont Circle Building, Washington, D. C. Commercially packed canned food and used clothing should be contributed through local groups. If local committees have not been set up, information may be obtained from Headquarters, Victory Clothing and Canned Food Collection, 100 Maiden Lane, New York 7. People wishing to "adopt" some family with a view to sending them gift packages regularly through the postal service should get in touch with established relief agencies such as the American Friends Service Committee, 20 S. 12 St., Philadelphia, or American Relief for France, 457 Madison Ave., New York.

Annual Mary Swartz Rose Memorial Lecture. Under the auspices of the Greater New York Dietetic Association, Professor Henry C. Sherman, friend and colleague of Mrs. Rose at Columbia University for many years, discussed current advances in the aspects of nutrition which she did so much to develop. The subject of Professor Sherman's address, "The Nutritional Improvement of Life," delivered at the New York Academy of Medicine, February 8, covered the corrective and constructive improvement of the body's internal environment by its food; and nutritional well-being as environing and conditioning the life process and thus the life history. The speaker discussed the present-day evidence that nutritional improvement of life can begin before birth, that in childhood it can mean improvement of mental as well as physical growth and development, and that earlier maturity can be followed by a longer period and a higher plane of full adult capacity, with higher attainment over a longer career and a lower percentage of years of dependence. By nutritionally guided food management, according to Professor Sherman, our use of foods and food-production resources can, largely through the influence of consumer demand, be so adjusted as to bring the benefits of the new knowledge of nutrition to a much larger proportion of people.

Chicago School of Cookery. To meet the urgent need for well trained cooks, a School of Cookery, sponsored by the Chicago Restaurant Association, Chicago Hotel Association, Chicago Dietetic Association and other interested groups, was opened October 22, 1945. Concerning the program of the school, which is conducted under the auspices of the Chicago Board of Education, Margaret Cowden, director of dietetics, Michael Reese Hospital, wrote as follows: "The first classes consist of men and women already employed in some type of food production and who are



Not Only for the Patient's Morning Meal

The many distinctive features, which contribute to the nutritional role played by cereals within the frame of the breakfast, recommend them as a supplement to other meals and as between-meal snacks. This unusual adaptability of cereals is of special advantage when patients require more nutrients than they were accustomed to receiving before hospitalization became necessary.

Enlargement of the daily dietary may prove difficult. When more food must be offered, it must be easily digestible, and the frequent lack of appetite may have to be overcome by presenting foods with a wide range of taste appeal. While cereals offer both of these advantages, their high nutritional value comes into play particularly when the patient can eat but little food, yet this small amount must be nutritious as well as contain the nutrients in balanced proportions.

The dish of cereal, milk, and sugar fits well into this picture. Nutritionally, it is excelled by few other foods. The high nutritional value is accompanied by thorough blandness and easy digestibility. Another distinct feature is the almost quantitative digestibility of cereals (except of those purposely made different through bran content), resulting in no residue that could prove a burden in the intestinal tract.

The variety of taste and form of cereals is so great that some of them will be acceptable to any patient, and the patient need never tire of them though they are served several times daily.

The quantitative contribution of the cereal dish—1 oz. of cereal (whole grain, enriched, or restored to whole-grain values of thiamine, niacin, and iron), 4 oz. of whole milk, and 1 teaspoonful of sugar—is shown in the appended table of composite values:

Calories	**202**
Protein	**7.1 Gm.**
Fat	**5.0 Gm.**
Carbohydrate	**33 Gm.**
Calcium	**156 mg.**
Phosphorus	**206 mg.**
Iron	**1.6 mg.**
Thiamine	**0.17 mg.**
Riboflavin	**0.24 mg.**
Niacin	**1.4 mg.**

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interested in learning cookery. Many of the members of the various associations are sending employees and are paying them while they attend classes. A well known chef teaches the practical aspects while a home economics graduate teaches theory. Much interest has been shown by the students, and other employees are requesting the opportunity of attending these classes. A request for recognition of the school for training of veterans under the G.I. Bill of Rights has been filed. Mr. Arnold Shircliffe, manager of the Wrigley Building Restaurant, Chicago, is one of the enthusiastic promoters of the school."

How to Cut Food Costs. This is the title of a manual by Ernest M. Fleischman, published by the New York State Restaurant Association, 369 Lexington Ave., New York, which includes: an accurate formula for establishing correct menu prices for each type of restaurant; a chart which enables one to calculate the actual finished cost per portion of any meat in an instant; a 7-day food cost record sheet which shows not only when over-all food costs are too high but also which particular class of food is offending; comprehensive chapters on leftovers, methods of saving by proper purchasing and cooking methods. The manual is available at $1.50 per copy (50% discount in quantities of 25 or more). Copies of *How to Get and Keep Restaurant Employees* are also available at the above address at $1 per copy.

Foreign Publications. Among the foreign publications now available, of interest to dietitians and nutritionists, is *Revue Internationale des Industries Agricoles*, published by the Commission Internationale des Industries Agricoles, 18 Avenue de Villars, Paris (VII). This is a collection of abstracts, in French, from the international literature concerned with the sciences and the industries related to agriculture, including food chemistry, food production in general, food technology, food economics, agronomy, agriculture, experimental and applied nutrition, etc.—in short, the material presented, while on a much broader scale, covers some of the scope and follows much the same plan as that of *Nutrition Abstracts and Reviews*, published by the Imperial Bureau of Animal Nutrition, the Reid Library, and Rowett Institute, Aberdeen, Scotland. The yearly rate for the *Revue* to subscribers in the United States is $10. It is presented in two sections, one a review of periodicals and the second an annotated bibliography of other publications and sources of information, including books, booklets, descriptive literature from manufacturers and distributors of materials and machines, etc.

The Societas Inter Gentes Ephemeridum ad Medicinam Pertinentium, Siege Provisoire, 47 Via Due Macelli, Rome, announces that the association plans in 1946 to issue a bibliographical bulletin of the latest books published in various parts of the world. This bulletin will be sent free of charge to the editors of medical reviews in order that they may be kept posted on the medical literature of all countries. Editors of such periodicals are requested to bring this enterprise to the attention of their readers by means of special notices, in order that authors, editors, and typographers may send the association copies of their publications or the necessary bibliographical facts to be inserted without charge in the contemplated bulletin.

Institute of Food Technologists. A tentative program for the Institute of Food Technologists, March 18–20, at the Statler Hotel, Buffalo, includes papers on the subjects of quality control, flavor and flavor control, sanitation, electronics, dairy products, nutrition, and frozen foods. A high light of the banquet session will be the presentation of the Nicholas Appert Medal Award by the Chicago section. Registration is scheduled to begin at the Statler Hotel March 17, and an attendance of 1000 is provided for in local hotels, according to a release from E. S. Stateler, Institute of Food Technologists, 520 N. Michigan Ave., Chicago 11.

New York Diabetes Association. An open meeting was held by this association in New York, January 26, with the following program: "A Quarter of a Century in Medical Research," and "Factors Affecting Fat Transport in the Animal Body," Dr. Charles H. Best; "Carbohydrate Metabolism in Traumatic Shock," Dr. R. E. Haist.

Veterans Administration Hires Specialist on Medical Problems of Women. For the first time in its history, the Veterans Administration has hired a special consultant on medical problems of women. It has been reported by a correspondent to the *Journal* of the American Medical Association, that Gen. Omar N. Bradley has announced the appointment to the new post of Lt. Col. Margaret D. Craighill, specialist on gynecology and surgery, who has served as consultant for women's health and welfare to the Surgeon General.

National Food Situation. According to the USDA *National Food Situation*, prepared by the Bureau of Agricultural Economics, the increase in the volume of food production during the 6 years, 1939–45, was nearly as large as that for the 30 years, 1909–39. The wartime increase was due to intensified production efforts of farmers, aided by favorable weather conditions over most of the country. The most significant gains were in wheat, truck crops and meat animals.

The allocation of edible fats and oils for exports and shipments in the first quarter of 1946 is 219,500,000 lb. compared with 179,300,000 lb. in the October-December quarter. This increase is possible primarily because of the smaller military requirements. The allocations to foreign claimants are consistent with Combined Food Board recommendations, which have been made in view of the short world supply of fats and oils. For 1946 as a whole, it is estimated that the amount of fats and oils to be supplied by the United States, plus other imports and amounts available from domestic production of these countries, will provide Western European countries with less than 80% of their prewar consumption. Consumption in countries supplied by UNRRA will probably be below that of the Western European countries.

The wheat and rice situations are now under consideration by the Combined Food Board, made up of representatives of the major importing and exporting countries who are attempting to prepare recommendations for mobilizing all world supplies and dividing them equitably. Available supplies of wheat during the first half of 1946 are expected to fall substantially short of desired import requirements of European and Far East users. Since in many countries cereals comprise as much as half of the current food intake, the shortage of this commodity is serious. The 1945 wheat crop in the United States was one of the few to surpass the billion bushel mark, but even with this large supply it will not be possible to fulfil all the demands upon it. The United Kingdom has agreed in principle to a further reduction in her import requirements for the coming months by means of a reduction of the planned stocks at the end of June 1946, to a minimum figure representing less than the supplies which were regularly available for maintaining distribution before the war. The United Kingdom is also maintaining its wartime requirement that all wheat suitable for human consumption shall be reserved for flour making and that such wheat shall not be used to feed livestock.

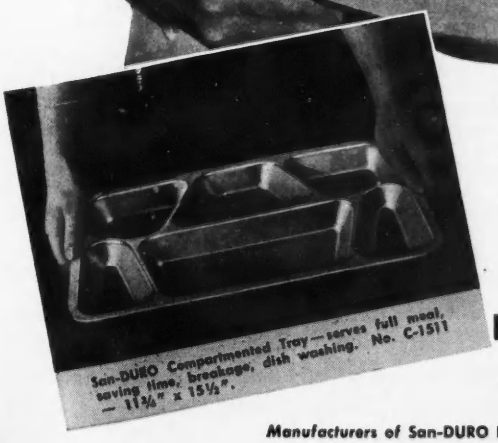
The U. S. rice crop in 1945 reached record levels and as much as possible is being made available for export to the needy areas. The United Kingdom will continue its policy of issuing no rice for civilian consumption.

HOSPITAL DIET KITCHENS SERVE MEALS FASTER AND MORE EFFICIENTLY WITH PLASTIC "SAN-DURO" TRAYS

San-DURO Rectangular Tray — ideal for all meal service. Also handy for instruments No. S-1814 — 18" x 14", and S-2015 — 20¾" x 15⅛".

San-DURO Round Serving Tray—for general utility use. No. R-14 — 14" diameter.

★ ASK your hospital supply jobber for full information and prices. Or write direct.



San-DURO Compartmented Tray—serves full meal, saving time, breakage, dish washing. No. C-1511 — 11¾" x 15½".

DIET KITCHEN SUPERVISORS in leading American hospitals highly endorse these odorless, tasteless, sanitary and durable Eclipse San-DURO Trays of handsome plastic. Because the surface is hard and chip-proof, the trays are easy to wash and sterilize. Amazingly light in weight. Not affected in any way by acids, alkali, or heat. Just right for your diet kitchen requirements!

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Manufacturers of San-DURO BRAND PLASTIC PRODUCTS and PRODUCERS OF PLASTIC ITEMS CUSTOM-MOULDED

According to a USDA release January 15, during the month of November 1945 deliveries of government-owned food for foreign shipment totaled 286,639,838 lb. On a commodity basis, grain products continued to be the largest single item in foreign shipments reported—60%, dairy products 18%, meats 10%, sugar 5%, special commodities 3%, fruits and vegetables 2%, poultry 1 %, fats and oils 1%.

USDA has allocated supplies of grain, canned meat, fish, milk, fruit and vegetables, dried fruits, fats and oils, sugar and soap for the Philippines. To meet acute needs resulting from the Japanese occupation, full quantities of all foods except sugar, butter, cheese and cocoa, requested by the Philippines for the 3-month period starting January 1, were approved under the allocations. Most of the sugar cane fields and sugar mills were destroyed during the war, and there was extensive damage to rice fields, so that the Islands now are greatly dependent upon the United States and other sources of supply for these staples.

Food Prices. The November 1945 *Marketing and Transportation Situation* (received January 11) includes a table showing that the retail cost of purchases of farm food products, on an annual basis, for a family of three average consumers, was $458 in October 1945, compared with $268 for 1913–15. In another table it is shown that the average total income per person in the United States, on an annual basis, was $1,105 in September 1945, of which $249 was spent for food, or about 23%, compared with a total income of $521 in 1935–39, and expenditure for food of $118, which was, however, the same proportion of total income—23%.

National Restaurant Association. A bulletin entitled *Five Years of Progress* has been issued by the association, summarizing the progress made since the establishment of an Educational Department. It is interesting to note that in selecting a person to head this department, the Educational Committee was "desirous of hiring a woman who has a college degree with a major in home economics, has had both teaching and commercial experience, possesses the ability to promote such a program, is a capable writer and speaker, and can give authoritative information on subjects of dietetics and nutrition." Alberta M. MacFarlane was selected to fill the position in March 1941. Among the events which have marked the progress of the department were the establishment of a short course on restaurant management at Northwestern University in 1941, followed by other short courses until a full-time Restaurant Administration Program was set up at the University of Chicago in 1944; the development of short courses for employee training; and the institution of apprentice training courses at restaurants in various large cities. A new printed *Apprentice Training Manual*, illustrated, will be made available by the association soon. An article in the December 1945 issue of *Practical Home Economics*, by Miss MacFarlane, described the apprentice training program and outlined the opportunities for work in the restaurant field.

National Society for Crippled Children and Adults, Inc. has announced its thirteenth annual sale of Easter seals for crippled children, March 21–April 21. This year marks the silver anniversary of this organization whose services include sponsoring an architectural program to benefit the physically handicapped, in which it will be pointed out that flights of steps, revolving doors, and lack of handrails exclude this group of persons from the use of public buildings. Fourteen thousand veteran amputees have been added to the list of persons who will benefit by these and other efforts of the organization.

At the suggestion of the Baruch Committee on Physical Medicine, the society has instituted a national employment exchange at 11 S. La Salle St., Chicago, designed to be a clearing house for hospitals, schools, and all organizations serving the handicapped who need specialists in physical medicine, occupational and physical therapists, speech correctionists, psychologists, or guidance specialists.

For Better Steaming. This is the title of a very useful booklet prepared by the Cleveland Range Company, Cleveland 14, Ohio, with the assistance of Howard B. Meek, head, Department of Hotel Administration, and Katharine Harris, head, Department of Institution Management, Cornell University; Florence Quast, head, Department of Institutional Management, Syracuse University; Dr. Mary deGarmo Bryan, head, Institution Management Department, Teachers College, Columbia University; and Mary Farnam, director of cafeterias, Cleveland Heights public schools. After a general discussion of principal cooking objectives and a comparison of the losses in vitamins in steaming and other methods, the advantages of steam cooking are described. Chief among the latter are the labor saving benefits: It is not necessary to handle a large array of utensils spread over a range cooking top or to keep watch against boiling over, scorching, or burning dry; steaming baskets or containers never require scouring because of burned-on food; large or small quantities of food can easily be handled with a minimum amount of labor; in many cases food can be cooked in cafeteria inset pans and transferred directly to serving stations without additional handling. Another advantage is that the steam cooker makes the procedure of cooking food in small quantities for continuous service simple and convenient. For example, vegetables may be partially steamed in cafeteria pans, then stored until required. As the service counters anticipate their needs, the partially cooked food is finished in the steam cooker. Practically no food need be wasted or spoiled because of preparation in excess of demand if this system is used.

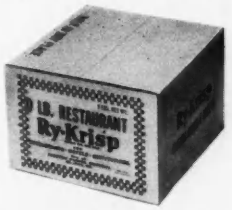
Directions for preparing and steaming individual foods are given in table form, with many helpful suggestions as to arrangement in pans, type of pan to select, cooking frozen foods, possible methods of serving, etc. It is stated that, in general, all methods given are tested and proved and can be recommended to those with limited experience. It is suggested, however, that operators will develop variations and adaptations, as well as improvement in procedures, and that it is advisable to standardize on the most suitable procedure and to use this exclusively. A steaming chart is included in the book, with spaces to be filled in by the operator, for this purpose. It is also suggested that, if possible, one employee should be trained in steaming, and that that person be entrusted with the preparation of all foods so cooked.

Some of the auxiliary uses for the steamer are: heating canned food, reheating cooked food, blanching vegetables, and canning. A supplementary bulletin, *Food for the Future*, provides full details on canning with steam cookers. Both booklets are available to schools, colleges, and other educational institutions, in fact will be sent free to all interested persons upon application.

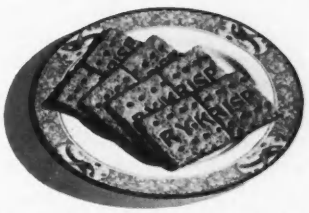
Deep Freezing of Meat. Meat may be frozen at temperatures as low as −40°F. to −114°F. in the future, if maximum tenderness should prove worth the extra cost of such very low temperature freezing, according to USDA's *Food and Home Notes*, January 16. Recent research shows that the faster meat freezes, the more tenderness it acquires in the process. Beef frozen at 18°F. and then thawed proved to be about 9% more tender than unfrozen beef, but beef frozen at −114°F. was about 28% more tender. Usual freezing temperatures for meat today are 0 to −10°F.

The microscopic studies of frozen meat showed that the

RY-KRISP IN THE 9-LB. PACKAGE



COSTS LESS THAN... ONE CENT PER SERVING*



AVAILABLE AT WHOLESALE GROCERS —SPECIFY 9-LB. RESTAURANT SIZE

***FOUR DOUBLE-WAFERS**

For convenience and for economy, Ry-Krisp is available in special hospital-size cases . . . 624 wafers wax-wrapped in 24-wafer packages. Four wafers cost only one penny. And Ry-Krisp stays fresh . . . no loss due to staleness!

A crisp, unleavened bread containing the protein, minerals and B-complex vitamins of whole-rye grain . . . light and airy in texture . . . with a delicious rye flavor . . . Ry-Krisp is a desirable every-meal bread.

Made simply of whole rye, salt and water and containing only 23 calories per double wafer, Ry-Krisp is often indicated as bread in certain allergy diets and in low-calorie diets.

FREE! ALLERGY AND LOW-CALORIE DIETS
Nutritionally Adequate

Wheat-free, milk-free, egg-free and combined wheat-milk-egg-free diets (revised, tenth edition) printed on 8½x11" sheets in pads of 25 each. 1200-calorie diet for women, 1800 for men in handy 4x6" booklet complete with menus and recipes. Available free in *quantities*.

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Please send, no cost or obligation, sample copies of Revised Allergy Diets No. C2143 and Low-Calorie Diet Booklet No. C566 so I may order diets I want in quantities I need.

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tenderizing effect of freezing depends partly on how and where ice crystals form in the meat. In slow freezing at 18°F., large crystals form between the muscle fibers, pushing the fibers out of shape but not breaking them. The crystals draw water from the fibers as they form. In fast freezing at −10°F. or below, smaller crystals form within the fibers, because there is not time for water to be drawn out. In forming, the crystals break the fibers, thus making the meat more tender. The lower the temperature and the faster the freezing, the more small crystals form within the fibers and the more the fibers break. At −114°F. the freezing is so rapid that nearly every fiber in the meat splits.

Frozen Food Consumers Institute. This organization, whose purpose is to standardize the frozen food industry and to encourage the processing of quality foods only, announced at its meeting in January that its "seal of quality" will be given to products which have passed all of their kitchen tests, according to a report in *Food Field Reporter*. Elaine Bitter, home economist and secretary of the organization, has been retained as head of the F.F.C.I. test kitchen located in Hubbard Woods, a suburb of Chicago.

Quick-Frozen Foods. Some of the best dishes sold at the Waldorf-Astoria will soon be available for use in the home, via the quick-freeze method, according to the *Food Field Reporter*, January 21. Experiments are already under way, supervised by Waldorf's Pre-cooked Frozen Food, Inc., New York, with the cooperation of Deerfield Packing Corp., Bridgeton, N. J. Items being tested include chicken à la king, curried chicken, lamb and veal stews, beef with cream sauce, escallopine of beef, and half broilers, boned.

New Amino Acid Products. The National Drug Company of Philadelphia, manufacturers of pharmaceuticals, biologicals and biochemicals, have announced two new amino acid products—Aminovite and Aminonat. Aminovite contains 70% protein hydrolysate "National," 10% autolyzed yeast, 10% lactalbumin, 2% hi-ribo, 2% liver powder (secondary fraction), 1% gelatin, with flavoring and sweetening agents. According to the manufacturer, it is to be used where the physician desires to administer natural vitamin B complex factors and minerals in addition to a high potency of amino acids and may be taken in almost any beverage and with cereal. Aminonat is composed of 94% protein hydrolysate "National" with 2% sodium chloride and 4% flavoring agents. It is administered in water, milk, soup, vegetable or fruit juices or with cereals, and is said to be palatable and well tolerated. Both products are available in 4, 8, and 16-oz. packages.

A new hematinic, Amiron, has also been announced by the same company. It contains 5% protein hydrolysate "National," 5% liver concentrate (1:20), 5% liquid yeast, 10% ethyl alcohol, 4 gr. (equivalent to 40 mg. iron) iron and ammonium citrates (green), 8 mg. thiamin hydrochloride, with carbohydrates and flavoring and sweetening agents.

Collodion Membranes Used in Enriching Rice. Membranes of collodion are applied to grains of rice in a recently patented method for enrichment of this grain with synthetic vitamins, according to a report in *Food Field Reporter*, January 21. Devised at the State University of Louisiana, the new method operates as follows: The rice is dried and coated with a thin collodion membrane. The grains are then placed in a solution of the vitamins (thiamin and niacin) which also contains primary sodium phosphate. The tendency of the rice granule to absorb water, which is able to move freely through the collodion membrane, is offset by the osmotic pull in the opposite direction exercised by the salt solution. The vitamins are then slowly absorbed into the rice grain and checking and cracking of the grains are prevented. It is said that the normal washing of the grains will not destroy the membrane. However, during cooking the grains take up more water, swell and break the membranes, which allows the vitamins to diffuse into the water.

Another method which will be used in a plant now being constructed by Walton Rice Mill, Inc., Stuttgart, Ark., is said to have originated with an Army sergeant. The process, which consists of soaking the rice, treating it with steam, drying and cooling to room temperature prior to the milling process, is said to retain the natural vitamins in the outer layer of the rice and obviate the necessity of the conventional curing period in the field.

Annotated Bibliography on Allergy. Seventy such references to the literature, published since 1940 and including those for 1945, have now been assembled in mimeographed form by the Diet Therapy Section of the American Dietetic Association, 620 N. Michigan Ave., Chicago 11. Copies are available at 20 cents each.

Allergy Bulletins. The Good Housekeeping Institute, Katharine Fisher, director, has published two bulletins on allergies, entitled *Helps for Allergies* (price 10 cents) and *Allergy and Cooking for Allergies, A Teachers' Bulletin*. The common questions about symptoms, causes, and medical care are answered, and recipes developed in the institute's test kitchen and checked by competent allergy specialists are included. The teacher's manual is available without charge to members of the American Dietetic Association from the Good Housekeeping Institute, 59 St. and 8 Ave., New York 19.

School Lunches. The January issue of *School Lunch and Nutrition News*, published by the University of Alabama, includes an unusually useful page of information, prepared by Mary E. Lyons. Included on the sheet are menus for two weeks, then an order list for the first week's menus sufficient for 100 children, together with recipes and instructions for making out an order. Finally, to help the manager arrange the duties for each worker, a work plan for one day's meals is given for two helpers.

Potato and Skim Milk Wafer. A crisp light brown salted wafer with a slight cheese and toasted potato flavor has been developed from potato and skim milk by dairy scientists of USDA in the course of research on new ways to use surplus milk, according to USDA's *Food and Home Notes*. Sticks or croutons may also be made of this potato and skim milk mixture. The product offers a new outlet not only for skim milk, so valuable nutritionally yet so frequently in surplus supply, but also for potatoes, especially smaller and cheaper grades, also often in surplus. Because the wafers contain no fat and do not absorb moisture readily, they keep better than such products as potato chips or shoestring potatoes, yet have much the same flavor appeal.

The process of making, on which there is a public service patent, is simple and requires no complicated manufacturing equipment. A mixture of riced boiled potatoes and dry or concentrated skim milk is seasoned with salt and whipped until it resembles mashed potatoes, then pressed through a tube and nozzle into the shape of wafers or other desired form, and dried on wire screen in a hot-air tunnel. The dried wafers are then toasted to a light brown color. The drying and toasting develop the cheese flavor from the casein of the skim milk. The wafers keep well in any moistureproof container such as a tight cellophane bag, lined paper bag or can. Wafers of different flavors are a possibility—one especially good was coated with a commercial cheese flavor that does not become rancid.

Doing all right!

1941 . . . 1946

This picture of Wayne, Twila, Dewain, Dolores and Gloria Miller was taken in the Fall of 1941.

Today there are seven Miller children → —an infant in addition to the six bread 'n Nucoa consumers shown at the right.

The Miller children's sturdiness speaks well for their Mother's way with the family food budget

Farm-reared Mrs. Miller is a manager who has demonstrated for years her ability to spread cash income competently over the needs of a big family. Her personal nutrition program she wrapped up in thirteen words back in 1941, when we snapped the five Miller children smiling across the fence. "Balanced meals that taste good and don't cost more than we can afford," she said. And don't the results—photographed above, right—justify her program?

Nucoa has suited that program to a "T" and been a staple in the Miller household for twelve years. "I use six to eight pounds a week and I like it a lot," says Mrs. Miller. "Nucoa always tastes so sweet and fresh and it's so reasonable in cost that I needn't be stingy with it. Growing children and men who work hard, as my husband does, need plenty of nourishing, rich spread for their bread, I think."

Trained nutritionists agree with Mrs. Miller on the importance of a spread for bread in the diet,[1] and the contribution of delicious vitaminized margarine like Nucoa to good low-cost nutrition.[2] For Nucoa supplies as much sustaining food energy as the most expensive churned spread for bread.[3] And no spread can be counted on month in and month out as a finer source of Vitamin A.[4] As for flavor and smooth spreading texture, try Nucoa in your own home and we believe you'll enthusiastically recommend it to others. You'll like Nucoa's dependably sweet, fresh flavor. 102 laboratory tests daily protect the uniform quality of Nucoa's flavor, texture and food value. And Nucoa is freshly made the year round, on order only. There is no "storage" Nucoa!

1 *H. C. Sherman, "Food Products," The Macmillan Co., N. Y., 1933—pp. 454-56.*

2 *I. C. Macy & H. H. Williams, "Hidden Hunger," The Jacques Cattell Press, Lancaster, Pa., 1945—pp. 171-2.*

3 *Wartime Farm & Food Policy, Pamphlet No. 5, by O. N. Brownlee, 1944—pp. 38-39.*

4 *At least 15,000 U.S.P. units of Vitamin A are guaranteed in every pound of Nucoa, winter and summer.*

Nutritious **NUCOA**

NOW WITH 15,000 U.S.P. UNITS OF VITAMIN A

Pectin Creams. A new method of making centers for chocolate creams which requires only half as much sugar as ordinary mixtures has been developed by chemists of USDA in cooperation with the National Confectioners Association. The modified pectin which has made possible this new candy cream as well as many other new jelly products was developed by the Western Regional Research Laboratory, Albany, Calif., in the course of research on new by-products from fruit. The chemists call it "low-methoxyl pectin." It was developed by modifying pectin from citrus peel by the action of an enzyme also in citrus peel, according to USDA's *Food and Home Notes*.

Turkey. According to the National Turkey Federation, Mount Morris, Ill., "Turkeys are not what they used to be." The new meat-type turkey (Broad-Breasted) is bigger, yields more breast, has larger, fatter drumsticks. The percentage of finished meat to whole bird has increased almost 50% over the previously grown birds. Broad-Breasts are produced for hotels, restaurants, hospitals, clubs, school cafeterias, and all other institutions and eating places. In a leaflet published recently by the federation, it is stated that the raw meat yield from a 20-lb. Broad-Breast tom turkey, costing $9.20, is: 6 lb. breast (6 1-lb. slices), 2 1-lb. slices boneless second joints, 2 1-lb. drum sticks with the bone, 12 oz. upper joint wing, 1 lb. by-products (neck, gizzard, heart, and liver), 1½ lb. skin. A pound of turkey yields 50 to 70% more meat than a pound of fowl, according to this release. The cost of finished meat on turkey averages $1.35 per pound when whole turkey (New York dressed) costs 46 cents. Tested recipes for hotels and restaurants are included in the leaflet.

French Add Soy to Bread. A recent order of the French Ministry of Food requires millers supplying large urban centers in France to add 5 gm. soy flour to every 100 gm. other flour used in a specified type of bread. Soy supplies in France are large enough to continue this addition of soy flour to bread for several months. The soybeans were imported largely from the United States. Some resistance to the new soy-enriched bread order was expected, but the order came at the time when bread was removed from rationing, and the French people were so happy to be able to buy bread without ration tickets that they did not complain about the addition of soy flour, according to *Food and Home Notes*.

Canned Jellied Fruit. A jellied mixed fruit dessert which resulted from wartime research for the Army is described in the January 30 issue of *Food and Home Notes*. A product that would keep well, both in cold climates and tropical heat, would be easy to carry, to open and to eat "out of hand" with no dripping juice to stain uniforms and attract insects, was developed at the Western Regional Research Laboratory, Albany, Calif. Using 60% fruit and 40% fruit juice jellied with fruit pectin, a canned jellied pineapple dessert was made, also a jellied fruit mixture of diced peaches, pears, cherries, pineapple, white grapes and apricots. The jelly was stiff enough to come out whole and hold its shape, flavor, color and texture. For civilian use a less stiff, more delicate jellied mixture has been developed.

District of Columbia to Exterminate Rats. As a safeguard against typhus, the District of Columbia has launched a campaign to clear out its notorious rat nuisance. Latest scientific methods, including experiments with DDT and the new rat poison 1080, will be used, according to a letter written to the *Journal* of the American Medical Association.

Prominent Members of the Association Receive New Appointments. Two past presidents of the Association, Nell Clausen and S. Margaret Gillam, have announced new appointments: Miss Clausen, Children's Hospital, Milwaukee, writes that beginning March 7 she will be food service director of the Tower Hotel, 716 N. 11 St., Milwaukee; Miss Gillam leaves the New York Hospital March 1, to accept the position of dietary consultant on the staff of *Hospitals*, the journal of the American Hospital Association, and general dietary consultant in the Council on Professional Practice.

Marie Casteen, another prominent member of the Association and formerly its treasurer, who for many years did notable work as Director of Food Research Laboratory Kitchen for the Statler Hotel Chain, has been named director of Institutional Cookery and editor of Lunchroom Management, on the staff of *What's New in Home Economics*.

Anna Reimer Receives Appointment. Miss Reimer, chairman of the Diet Therapy Section, A. D. A., previously at University Hospital, Iowa City, succeeds Anna Light on the staff of University Hospital, Ann Arbor, Mich.

Grocery Manufacturers Honor Mary Barber. Mary I. Barber, director, Home Economics Department, the Kellogg Company, is reported to have received the accolade of the Grocery Manufacturers of America, Inc. at a luncheon in Cincinnati, January 10, when the grocery manufacturers association was host to newspaper foods editors throughout the United States.

Margaret Cowden's Marriage Announced. Mrs. Franz Edward Cowden, Chicago, has announced the marriage of her daughter, Margaret, to Lt. Russell David Bernard, U. S. N. R., on January 17. Mrs. Bernard is well known to members of the American Dietetic Association as director of an approved training course for dietitians at Michael Reese Hospital for several years and as treasurer of the national Association.

Victoria (Australia) Dietetic Association. The *Newsletter* of the Dietetic Association of Victoria, October 1945, includes a report of the Dietitians Registration Board of Victoria. Eleven applications for registration had been granted by the Board, of which L. S. Aitken, a member of the Dietetic Association of Victoria is a member, and two refused. The registration of three dietitians had been suspended for non-payment of registration renewal fees. A course of training for dietitians proposed by the Faculty of Science, University of Melbourne, was approved by the Board. It was recommended that two lectureships be added to existing teaching facilities, a lecturer in Dietetics and another in Applied Dietetics, the lecturers' duties to include management of the Union Catering Service at the University.

Negotiations for amalgamation between the dietetic associations of New South Wales and Victoria to form a "Federal Association" were reported to be in progress.

Income from the showing of a film, "This World of Plenty," was allocated to a library fund for the association and the printing of the *Newsletter*.

Maryland Dietetic Association. On November 15, the association gave a dinner in honor of Dr. E. V. McCollum who has retired from the staff of the School of Hygiene, Johns Hopkins University. Dr. McCollum was presented with a scroll entitled "Vitamins" which gave a brief synopsis in rhyme of his work; he was also presented with a silver platter.

Cafeteria Kitchen, Percy A. Brown & Co., Wilkes-Barre, Pa.

A harder aluminum alloy than any ever before practicable for kitchen equipment is an important new feature of Wear-Ever range top utensils and steam jacketed kettles.

There are many kitchens where Wear-Ever equipment, installed fifteen, twenty or more years ago, is still performing like new. Now, this harder alloy, so highly resistant to denting, gouging and scratching, means even longer service—cuts kitchen costs still further.

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WEAR·EVER ALUMINUM

Mrs. Beryl Boerner has resigned from the Union Memorial Hospital staff to be with her husband; they are living in Pennsylvania. Mary Lenker has also resigned from the Union Memorial staff. Mary Anderson, recently discharged from the Army, is now on the staff at Union Memorial. Miriam Connelly, formerly chief dietitian, University Hospital, has resigned. New staff members at Sinai Hospital include Jeanne Daubert Abramowitz and Jessie Wetter. Grace C. Levis, recently discharged from the Army, has accepted a position with the Baltimore City Schools.

Helen Schmidt has announced her marriage to Dr. Edward Cotter on February 23.

Recent staff changes at Johns Hopkins Hospital include the following: Helen Baughman has been granted a leave of absence to study at Columbia University; Hilda McEwen has resigned to accept a position in Calgary, Alberta, Canada; Sybil White and Adelyne Marek, recent graduates of Massachusetts General Hospital are now on the staff; Sylvia Matson, Seattle training course graduate, is in charge of the nurses' cafeteria; Edith A Jones, formerly Army dietitian in the ETO, is now in charge of the Harriet Lane Home. On January 12, eight student dietitians were enrolled: Jean Howell and Ophelia Poole, University of Texas; Marion Delong, Drexel Institute; Helen Wortman and Maurine Penry, Iowa State University; Inistore Godfrey, University of Alabama; Sarah Henry, University of Chicago; Sara Smithson, Woman's College of the University of North Carolina.

Alice Jané was guest speaker at the December meeting of the Philadelphia Dietetic Association—her topic, "The Dietitian Cooperates."

Greater New York Dietetic Association. The January meeting was held in the Presbyterian Hospital with Edith Languille as chairman. The program included talks by Mabel G. Flanley, Flanley and Woodward; and Polly Gade, U. S. Inspected Foods Educational Services.

North Carolina Dietetic Association. Officers elected at the annual meeting, December 8, at Chapel Hill, were: president, Sallie Mooring, State Hospital, Morganton; president-elect, and editor of *Bulletin*, Margaret Ross, Memorial Hospital, Charlotte; vice-president, Jean Tait, Hemlock Hedges, Montreat; secretary, Carolyn Willis, Baptist Hospital, Winston-Salem; treasurer, Marjorie Farrar, Memorial Hospital, Charlotte; Delegate, Tiphaine Burgess, Watts Hospital, Durham. Principal speaker was Dr. W. J. Peterson, head, Nutrition Section, State College, Raleigh, who told of nutrition research now in progress showing the effect on the vitamins of various methods used in large-scale cookery. Lt. Genevieve Shade discussed the Army dietitian and her work. Dr. Ada M. Field, Guilford College, was chosen as the state's first honorary member. Resolutions were presented as a tribute to Elizabeth O. Meinung, former delegate, who died recently.

Ohio Dietetic Association. Ruth Mika, State Hospital, Toledo, attended the executive board meeting in January to discuss plans for the state convention in Toledo April 26–27. Miss Mika is president of the Toledo group and Martha Pollard is chairman of local arrangements for the convention.

Dr. Howard Holmes, Toledo Board of Health, was the speaker at the January meeting of the Toledo association. His talk concerned the control of tuberculosis.

At the February meeting of the Cincinnati association, Dr. Richard Vilter, assistant dean of the College of Medicine, University of Cincinnati, reviewed recent vitamin deficiency cases which have been treated at the Cincinnati General Hospital. He used slides to demonstrate characteristic lesions. Also included in his lecture were current studies of the value of folic acid in the diet, and the most recent investigations of specific amino acids.

Mrs. Del Lloyd, main kitchen supervisor, Cincinnati General Hospital, resigned February 1. Adelyn Simon, formula room supervisor, resigned to become assistant personnel dietitian at the Good Samaritan Hospital. Margaret Stewart, formerly dietitian at Cincinnati General Hospital, returned to Cincinnati for a visit during her terminal leave from the Navy.

Mrs. Mary Louise Quinlan Timerman, formerly a captain in the Medical Department of the Army, is now dietitian in the pay cafeteria at Good Samaritan Hospital.

Lute Troutt, director of dietetics, Indiana University Medical Center, Indianapolis, and Dr. Carl Wilzbach, Cincinnati Board of Health, spoke at the January meeting of the Cincinnati Dietetic Association. Miss Troutt told of a course for food handlers taught in her institution. Best methods of dishwashing, personal hygiene, utensil sanitation, acceptable practices concerning food storage and rodent control were some of the many phases discussed. Two movies, "Preventing the Spread of Disease" and "Eating Out" were recommended for education of employees. A lively discussion period followed, during which such subjects as the possibility of food poisoning caused by rodents carrying DDT to the food were discussed. That danger was not considered likely, because the amount transferred to food would be so minute. Another interesting discussion concerned the handling of meat broths, the following questions having been considered: Should they be cooled before refrigeration, or could they be refrigerated immediately in shallow storage vessels? Would the danger of contamination be less during cooling at room temperature than if they were cooled and refrigerated at the same time?

Dorothy Osler, Children's Hospital, Columbus, has accepted a position in Honolulu. Miss Osler resigned as secretary of the Ohio Dietetic Association, and the treasurer, Lillian Rees, Norwood High School, is completing Miss Osler's term as secretary.

Mrs. W. B. Smith, Canton Dietetic Association, planned an interesting program recently, which included two talks on the subjects: "Early American Foods" by Mrs. George Andrews, and "A Trip From Scotland to America" by Mrs. Ella Mitchner.

Mr. and Mrs. Robert A. Carney (Jacqueline Briscoe) have announced the birth of a son, January 19. Mrs. Carney was formerly on the staff at Miami Valley Hospital, Dayton. Mr. and Mrs. Richard W. Ittelson have also announced the birth of a son, January 1. Mrs. Ittelson was formerly nutritionist with the Dayton Department of Health.

Dr. Florence Wagner, head, Home Economics Department, Miami University, Oxford, spoke at a joint meeting of the Dayton and Montgomery County Home Economics Association and the Dayton Dietetic Association, January 18, on "Openings for Home Economics Trained People." Home economics students at the University of Dayton were invited to attend. Dr. Wagner outlined four channels of activity: Homemaking was considered of most importance. Closely related to homemaking is the field of teaching, in which the development of her students is the teacher's immediate reward for her enthusiasm and work. The teaching field was described as one of constant expansion. Dr. Wagner cited the growing demands for trained economists as reflected in government legislation and appropriations in this field. Mention was made of the Extension Service of the B. H. N. H. E., and the various social agencies throughout the nation. This was called the service phase of home economics in which the community is the laboratory. Regarding the fourth field, Dr. Wagner

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stated: "Into the business field increasing numbers of home economics trained women are going. Tomorrow's clothes and patterns, tomorrow's food products and menus, and tomorrow's homes are the problems of today's home economists."

Staff changes at the Veterans Administration Hospital, Dayton, include the resignation of Elsa Hart and the appointments of Verdi Miller, Boise, Idaho, and Mrs. Mary Pigman, Livermore, Calif. Kathryn Pluemer, assistant dietitian, Miami Valley Hospital, Dayton, has resigned to return to her home in Seattle because of her mother's illness. Mrs. Phyllis Nussmeyer Murtaugh, recently discharged from the Army, is instructing nurses in nutrition and cookery at Miami Valley Hospital.

Mildred Bonnell is now in the interior of China surveying the needs of the people there for UNRRA assistance, and would like to hear from her friends. Her address is UNRRA Headquarters, APO 907, c/o Postmaster, San Francisco.

Audrey Jones, formerly of the Veterans Administration, is at Huron Road Hospital, Cleveland, as assistant administrative dietitian.

Oklahoma Dietetic Association. The executive board met with Vera Parman at University Hospital, January 5. Members present were Muriel T. Nelson, president; Vera Parman, vice-president; LaVon Thompson, treasurer; Virginia Johnson McIntyre, secretary; Laura Miller, Community Nutrition Chairman; Lucy Woodson, Food Administration; Veda Bailey, Diet Therapy. Guests at the meeting were members appointed on standing committees and chairmen of convention committees as follows: Margaret Durrett, Arrangements; Mary Alice Bolt, Exhibits and Advertising (also Legislation); Ann Hains, Program and Publicity.

Spring Convention dates were set for April 5–6, at the Skirvin Hotel, Oklahoma City. The program chairman will have as her committee the four section chairmen, as the convention is to be divided into four parts, each devoted to one of the sections. As far as possible members are to be invited as speakers on the program.

Oklahoma City dietitians had a buffet luncheon and party in the Y. W. C. A., December 18. Gifts were exchanged, but not opened as they were toys for a local orphanage. At the January meeting, St. Anthony's Hospital Assembly Room, the following movies were shown: "Guide to Good Eating"; "Husky and Skinny"; and "More Life in Living."

At the meeting on February 28, Mary Barnes told of the experiences of a dietitian in England and on the Continent.

News From Advertisers and Exhibitors. Wyandotte Chemicals Corporation, Wyandotte, Mich., reports that one of their new products, Wyandotte 97 Paste, the cleaner for use on bathroom and washroom fixtures, floors and walls, is now available in full flush, lock top steel drums. This is a quick acting and free rinsing cleaner, ideal for "spot" cleaning soiled painted furniture, for removing marks from floors of all kinds, and for use by mechanics where hands become heavily soiled.

A new thromboplastin for use in clinical laboratories to determine the prothrombin time (prothrombin clotting time of the blood) has been developed in the Research Laboratories of the Maltine Company. Prepared for diagnostic use only, it is said to be more potent and more stable than thromboplastins formerly available, and is standardized to a narrow range. This product is available in boxes of 12 sealed vials and is packaged with a folder describing methods for determining prothrombin time. Literature may be obtained upon application to the company at 745 Fifth Ave., New York 22.

Marie Gifford's Kitchen Service, Armour and Company, Union Stock Yards, Chicago, has thoughtfully prepared an index of their series of bulletins, which are of real value to administrative dietitians. The latest in the series covers "The Gentle Art of Carving," listing the proper equipment and presenting by illustration the step-by-step procedure for the correct carving of ham, beef, pork, and lamb, in various cuts.

A reference list of educational materials, including publications and films, is available from the Home Economics Department, Cereal Institute, Inc., 135 S. La Salle St., Chicago 3. All material listed is available to professional people in reasonable quantity, free of charge.

APPROVED TRAINING COURSE IN SCHOOL LUNCHROOM MANAGEMENT PROPOSED

At the meeting of the Executive Board, American Dietetic Association, Chicago, February 14–15, tentative plans were approved for a training course in the school lunchroom field. When plans are perfected, qualified college graduates will be admitted for training in the specialized administrative and educational aspects of school lunchroom management.